

# Exhibit 6

Page 1

UNITED STATES DISTRICT COURT  
DISTRICT OF NEW JERSEY

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IN RE JOHNSON & JOHNSON ) MDL No.  
TALCUM POWDER PRODUCTS ) 16-2738 (FLW)(LHG)  
MARKETING SALES PRACTICES, )  
AND PRODUCTS LIABILITY )  
LITIGATION )  
THIS DOCUMENT RELATES TO )  
ALL CASES )

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VIDEOTAPED DEPOSITION OF

LAURA WEBB, Ph.D.

BURLINGTON, VERMONT

FRIDAY, MARCH 29, 2019

9:28 A.M.

Reported by: Leslie A. Todd

1      Deposition of LAURA WEBB, Ph.D., held at the:  2 3 4      HOTEL VERNONT 5      41 Cherry Street 6      Burlington, Vermont 05401 7      (802) 651-0080 8 9 10 11 12 13 14     Pursuant to notice, before Leslie Anne Todd, 15     Court Reporter and Notary Public, who officiated 16     in administering the oath to the witness. 17 18 19 20 21 22 23 24 25	Page 2  1      APPEARANCES (Continued): 2 3      ON BEHALF OF THE JOHNSON & JOHNSON DEFENDANTS: 4      JACK N. FROST, JR., ESQUIRE 5      KATHERINE McBETH, ESQUIRE 6      DRINKER BIDDLE & REATH LLP 7      One Logan Square 8      Suite 2000 9      Philadelphia, Pennsylvania 19103-6996 10     (215) 988-2706 11 12     ALEX V. CHACKES, ESQUIRE 13     ORRICK, HERRINGTON & SUTCLIFFE LLP 14     51 West 52nd Street 15     New York, New York 10019-6142 16     (212) 506-3748 17 18     ON BEHALF OF THE PCPC: 19     JAMES R. BILLINGS-KANG, ESQUIRE 20     SEYFARTH SHAW LLP 21     975 F Street, N.W. 22     Washington, D.C. 20004-1454 23     (202) 463-2400 24 25
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<p>1           P R O C E E D I N G S</p> <p>2           -----</p> <p>3       THE VIDEOGRAPHER: We're now on the</p> <p>4       record. My name is David Lane, videographer for</p> <p>5       Golkow Litigation Services. Today's date is</p> <p>6       March 29th, 2019. Our time is 9:28 a.m.</p> <p>7       This deposition is taking place in</p> <p>8       Burlington, Vermont, in the matter of Talcum</p> <p>9       Powder Litigation MDL.</p> <p>10       Our deponent today is Laura Webb, Ph.D.</p> <p>11       Counsel will be noted on the</p> <p>12       stenographic record.</p> <p>13       Our court reporter today is Leslie Todd,</p> <p>14       who will now swear in the witness.</p> <p>15       LAURA WEBB, Ph.D.,</p> <p>16       and having been first duly sworn,</p> <p>17       was examined and testified as follows:</p> <p>18       THE VIDEOGRAPHER: You can begin.</p> <p>19       MR. BURNS: You want appearances on the</p> <p>20       record or --</p> <p>21       THE VIDEOGRAPHER: You can just begin.</p> <p>22       MR. BURNS: Okay. Thank you.</p> <p>23       Dr. Webb, before we get started -- and,</p> <p>24       Mr. Frost, this is directed to all -- we're going</p> <p>25       to lodge an objection on the record related to the</p>	<p>1           DIRECT EXAMINATION</p> <p>2           BY MR. BURNS:</p> <p>3       Q Good morning, Dr. Webb. My name is</p> <p>4       Warren Burns. Again, we met right before the</p> <p>5       deposition. I represent the plaintiffs in the</p> <p>6       MDL. I'm from Dallas, Texas, and I will be</p> <p>7       questioning you today.</p> <p>8       Dr. Webb, have you ever been deposed</p> <p>9       before?</p> <p>10       A I have not.</p> <p>11       Q Okay. A couple of simple rules for the</p> <p>12       road then. If you need a break, I'm more than</p> <p>13       willing to let you take one at any time. I only</p> <p>14       ask that if a question is pending, we get that out</p> <p>15       of the way, get the answer on the record, and then</p> <p>16       you're more than welcome to go. So just let us</p> <p>17       know if that's the case.</p> <p>18       If at any time I am unclear, which</p> <p>19       certainly will happen probably multiple times over</p> <p>20       the course of this day, please let me know. I'm</p> <p>21       happy to clarify anything I say.</p> <p>22       You are obviously an expert in many</p> <p>23       things, and the -- of which I am less familiar.</p> <p>24       So if I am unclear, please let me know, and we</p> <p>25       will try to get on through it.</p>

<p style="text-align: center;">Page 14</p> <p>1           What did you do to prepare for your 2 deposition?</p> <p>3           A Well, I met with counsel. I reviewed 4 the reports, including my own. I reviewed the 5 body of literature that I've been looking at.</p> <p>6           Q Okay. Now, when did you meet with 7 counsel?</p> <p>8           A Multiple times.</p> <p>9           Q Do you recall the dates?</p> <p>10          A I -- well, yesterday and last Friday as 11 well.</p> <p>12          Q Were those meetings here in Burlington, 13 Vermont?</p> <p>14          A They were.</p> <p>15          Q How many lawyers were present?</p> <p>16          A Yesterday, two, and last Friday, three.</p> <p>17          Q Do you recall any other meetings?</p> <p>18          A Yes, there were prior meetings. I just 19 don't remember the dates offhand.</p> <p>20          Q Okay. Approximately how many prior 21 meetings would you say?</p> <p>22          A Two to three.</p> <p>23          Q Okay. Now, during the course of your 24 preparation for this deposition, were you shown 25 any documents that refreshed your recollection?</p>	<p style="text-align: center;">Page 16</p> <p>1           BY MR. BURNS: 2           Q Exhibit 2 is the -- Exhibit 2 is the 3 Notice of Oral and Videotaped Deposition of Laura 4 Webb, Ph.D. and Duces Tecum. 5           And Exhibit 3 is Defendants' Response to 6 Plaintiffs' Document Request contained in Notice 7 of Oral and Videotaped Deposition of Laura Webb, 8 Ph.D. and Duces Tecum. 9           There you go, Dr. Webb. 10          A (Peruses document.) 11          Q Ready, Dr. Webb? 12          A Yes. 13          Q Okay, great. 14          So let's start with Exhibit 2. This is 15 the Notice of Oral and Videotaped Deposition of 16 Laura Webb, Ph.D. and Duces Tecum. It's dated 17 March 14th, 2019. 18          Do you recognize this document? 19          A I do not, no. 20          Q You don't recall seeing it before? 21          A (Witness shakes head.) 22          Q But you are appearing today to give 23 testimony with respect to a report you previously 24 issued; is that correct? 25          A That's correct.</p>
<p style="text-align: center;">Page 15</p> <p>1           A I was not shown any documents.</p> <p>2           Q Now, Dr. Webb, I'm going to mark this as 3 Plaintiffs' Demonstrative No. 1. It's nothing too 4 serious, just a little roadmap for us as we go 5 through the day today.</p> <p>6           I intend to cover approximately four 7 issues with you as we go through today, and we'll 8 check them off as we get through them all.</p> <p>9           The first is your response to the notice 10 of deposition and subpoena that you received prior 11 to the deposition.</p> <p>12          The second involves your qualifications 13 which underpin your testimony and report. I want 14 to make sure I spell that right.</p> <p>15          The third involves your preparation to 16 render your opinions.</p> <p>17          And the fourth is your report and 18 opinions.</p> <p>19          So I want to start with actually the 20 subpoena. I'm going to hand you a few documents 21 that we have premarked. First will be Exhibit 1, 22 your report, or what I believe is your report.</p> <p>23          (Webb Exhibit Nos. 1 through 3 24 were premarked for 25 identification.)</p>	<p style="text-align: center;">Page 17</p> <p>1           Q And is that report reflected in 2 Exhibit 1, Expert Report of Laura Webb, Ph.D., for 3 General Causation Daubert Hearing?</p> <p>4           A That appears to be the very report, yes.</p> <p>5           Q Okay. Thank you.</p> <p>6           Now, I would like you to look at 7 Exhibit 3, Dr. Webb. That's Defendants' Response 8 to Plaintiffs' Document Request contained in 9 Notice of Oral and Videotaped Deposition of Laura 10 Webb, Ph.D. and Duces Tecum.</p> <p>11          Do you see that?</p> <p>12          A Yes.</p> <p>13          Q Okay. Are you familiar with this 14 document?</p> <p>15          A No, I'm not.</p> <p>16          Q Okay. You don't recall seeing it 17 before?</p> <p>18          A No. I saw the notice of deposition, but 19 I have not seen this.</p> <p>20          Q Okay. Before coming to the deposition 21 today, did you search your files for any relevant 22 documents?</p> <p>23          A Before -- sorry. What time frame are we 24 talking about?</p> <p>25          Q Well, let me ask a different question</p>

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<p>1 then. 2 Prior to your deposition today, were you 3 informed that plaintiffs were seeking documents 4 from you at the time of this deposition? 5 A I knew there -- I mean, I know there are 6 documents requested in the notice of deposition, 7 and counsel is responsible or, you know, responded 8 to those. But that's -- 9 Q I see. But did you -- were you 10 personally informed that you needed to look for 11 documents that were responsive to your requests 12 from the plaintiffs prior to your deposition? 13 A I -- I provided everything that is in my 14 reliance, but in terms of in the last few days 15 being charged with searching my -- my records, no. 16 Q That's right. And we're really talking 17 about that period between March 14th of this year, 18 2019, and the present. 19 So you don't recall being asked to 20 search for additional documents during that 21 period? 22 A I was asked to make sure that my 23 reliance list was complete. 24 Q Okay. And do you recall when you were 25 so instructed?</p>	<p>1 A Excuse me. 2 MS. O'DELL: The 26th -- 25th. 3 MR. BURNS: It's the 25th. Okay. 4 Oh, you're right. It's the 30th -- or 5 29th today. I apologize. 6 BY MR. BURNS: 7 Q Okay. So you prepared this document on 8 Monday, March 25th, and the document contains 11 9 supplemental materials that you reviewed; is that 10 right? 11 A Yes. 12 Q Okay. And the first five appear to be 13 maps; is that right? 14 A Yes. 15 Q Okay. 16 A Or maps and reports in some cases, yes. 17 Q Okay. Can you tell me which ones also 18 represent reports? 19 A Number 1, 3, and I believe number 5. 20 Number 4, I'm not sure about. 21 Q And just so I understand, because 22 there's a little bit of confusion on our side, 23 when you listed these materials, and 1, 3 and 5 24 contain reports -- 25 A Mm-hmm.</p>
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<p>1 A Oh, I believe we talked about that last 2 Friday. 3 Q Now, again, staying with Exhibit No. 3, 4 Dr. Webb, the first -- let's see -- the first 19 5 pages contains quite a bit of legal -- legal 6 mumbo-jumbo that you're probably not too 7 interested in that we may or may not fight about 8 down the road with your lawyers. 9 But after that, the next page is titled 10 Expert Report of Laura Webb, Ph.D. for General 11 Causation Daubert Hearing, Supplemental List of 12 Materials Reviewed. 13 Do you see that? 14 A Yes. 15 Q Okay. Is this a document you prepared? 16 A It is. I provided that list. 17 Q Okay. And you provided it to counsel? 18 A Yes. 19 Q Okay. Do you recall when you prepared 20 this list? 21 A On Monday. 22 Q Okay. That would be Monday, March 15th? 23 A This past Monday, the 20 -- whatever. 24 Yeah. 25 Q Maybe 16th.</p>	<p>1 Q -- is there any way we can figure that 2 out from the -- from the -- from your citation? 3 The citation appears to contain the title of the 4 maps, but does that correspond to the articles as 5 well? 6 A I mean, these are USGS report -- 7 reports, open file reports. In some cases they're 8 maps in a numbered series. So the general 9 citations don't necessarily, yes, reveal that. 10 Q Okay. Now, the next item is "Zodac, P., 11 1940, A Talc Quarry Near Chester, Vermont." 12 Is that an article that you reviewed? 13 A Yes. 14 Q And item 7, Deposition of Ann G. Wylie. 15 Is that a deposition transcript? 16 A Yes. 17 Q And next one is Expert Report of Ann G. 18 Wylie. Did you have access to the entire report? 19 A I did. 20 Q And the supporting materials? 21 A Can you define "supporting materials"? 22 Q Yeah, the documents that would have been 23 cited as the list of materials reviewed or relied 24 on. 25 A I only read the expert report, so I</p>

<p style="text-align: center;">Page 22</p> <p>1 didn't -- there may have been some common 2 materials cited, but I did not dig into those, so 3 to speak. 4 Q Okay. The next one is Deposition of 5 Mary Poulton, and that's a deposition transcript? 6 A Yes. 7 Q Next is Expert Report of Mary Poulton. 8 Did you read the entire report? 9 A I -- I read good portions of it. I 10 think there were some areas that I skimmed. 11 Q Did you have access to the whole report? 12 A I did, yes. 13 Q And did you review the materials 14 reviewed or relied upon? 15 A No. 16 Q Next one is expert report of Darby Dyar. 17 Did you have access to the full report? 18 A I did, yes. 19 Q And did you review that full report? 20 A I did. Again, portions -- some portions 21 I read in more detail than others, but I did see 22 the full report. 23 Q And did you review the materials 24 reviewed or relied upon? 25 A No.</p>	<p style="text-align: center;">Page 24</p> <p>1 Q 2011. Okay. Now, that isn't listed in 2 your supplement materials, is it? 3 A No. It's cited in my report. 4 Q Okay. And now, if you wouldn't mind 5 proceeding to that second map. 6 A Yes. 7 Q Okay. And how does this correspond, if 8 at all, to your supplemental materials? 9 A It does not. 10 Q Okay. 11 A I mean, I will make -- so the link 12 between the supplemental materials and these maps 13 are the -- the pushpins that mark the locations of 14 certain mines or geologic bodies, for example. So 15 when I first put this together, this is a Google 16 Earth compilation. In terms of locating these 17 bodies, in some cases on this Ratcliffe, et al., 18 2011 map, I also compared with maps, these more 19 detailed quadrangle maps. 20 Q Okay. And when you refer to the more 21 detailed quadrangle maps, you're referring to 22 those that are listed in your supplemental 23 materials? 24 A Yeah. So it was in providing this that I recalled I had looked at these many months ago</p>
<p style="text-align: center;">Page 23</p> <p>1 Q Okay. In Exhibit 3, Dr. Webb, if you go 2 down, if you go to the end of the exhibit, there 3 appear to be five maps or graphical 4 representations that are part of these materials. 5 A Yes. 6 Q Okay. This may be a little difficult, 7 but if we could stay with your supplemental list 8 of materials reviewed. Can you tell me how these 9 maps correspond, if at all, to those supplemental 10 materials? 11 A Well, the -- the geologic map -- 12 Q Now, we're looking there at the map that 13 says "Google Earth Image, U.S. Geographical 14 Survey"?" 15 A Yes. So there are basically two map 16 backdrops. There's the one that is much more 17 complicated looking, and that is the Vermont State 18 Bedrock map by Ratcliffe, et al., 2011. 19 Q Is that the first map in the material? 20 A Yes. And then the second one is the 21 metamorphism tile from Doll, et al., 1961. 22 Q And if I can just pause you there. 23 You said the first map was from 24 Ratcliffe, and what was the date on that? 25 A 2011.</p>	<p style="text-align: center;">Page 25</p> <p>1 when I was determining locations, and that's 2 why -- I haven't looked at them recently. This is 3 why they were added as a supplement. 4 Q I see. Okay. So the second map we were 5 looking in -- looking at, another Google Earth 6 map, is this map cited in your report as well? 7 A Yes, it is. It's Doll, et al., 1961. 8 Q Now, let's turn to the third map. A lot 9 going on in this one. 10 A Yes. This is a -- I zoomed in on the 11 Chester dome area. So it's the same background 12 map as the first one. 13 I'm sorry, I cut you off there. 14 Q No, that's fine. 15 Okay. So the third map is a zoomed-in 16 version of the first map focusing on the Chester 17 dome. 18 A That's correct. 19 Q Is that right? 20 A Yes. 21 Q And that is Ratcliffe, 2011? 22 A Yes. 23 Q Now, the fourth map, what are we looking 24 at here? 25 A That's the zoomed-in version of the</p>

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<p>1 Doll, 1961 map. So my -- yeah, generally I was 2 trying to show the detail that you can't see in 3 the first two. 4 Q Okay. And how do you -- is it D-A-L-L? 5 A I'm sorry? 6 Q Is Doll D-A-L-L? 7 A D-O-L-L. 8 Q D-O-L-L. Okay. 9 All right. And that leaves us with I 10 believe one map. The fifth map, what is -- what 11 are we looking at here? 12 A That's zoomed in further at the northern 13 end of the Chester dome. 14 Q From the 2011? 15 A 2000 -- Ratcliffe, 2011, yes. Sorry, 16 Ratcliffe, et al. 17 Q Okay. And this is the northern end of 18 the Chester dome? 19 A Yes. 20 Q Okay. Let's start with -- I guess 21 really the Ratcliffe map that's reflected in maps 22 1, 3, I think, and 5; is that right? 23 A Yes. 24 Q Okay. When did you prepare this map? 25 A Well, I began compiling this information</p>	<p>1 the northern end of the Chester dome. Then -- 2 sorry, so again some things didn't show up well at 3 this -- at this area. So Argonaut would be near 4 the Rainbow and Frostbite mines, and then Hamm 5 mine is further down. 6 Q And these pushpins carry over then to 7 your zoomed versions? 8 A They do, yes. 9 Q Okay. And if you look at that map 10 number 3, Argonaut mine, for example, there's 11 pushpins somewhere sort of in the upper middle of 12 the page; is that right? 13 A Yes. 14 Q What was your purpose in compiling this 15 information and creating this map? 16 A Well, it's critical to understand the 17 location of the mines with respect to the 18 distribution of -- of geologic units, and in 19 particular -- of particular interest is also the 20 metamorphic grades of these rocks, which is why 21 the Doll map is -- is used. Because the geology 22 is actually very complex. There's -- I mean, 23 three collisional orogenies that -- that give rise 24 to the overall structure of -- of geologic units 25 here.</p>
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<p>1 really when I was first retained by Shook Hardy &amp; 2 Bacon. 3 Q And was that in 2017? 4 A That's correct. 5 Q When you say you began compiling this 6 information, what do you mean? 7 A I mean by determining the exact 8 locations of -- of different geologic bodies on 9 this backdrop of the -- the bedrock map of Vermont 10 and the metamorphism tile. 11 Q Can you give us an example in this first 12 map, the Ratcliffe, 2011 -- Ratcliffe, et al., 13 2011, of the type of specific information you were 14 trying to show on this map? 15 A Yeah. So, again, for example, the 16 Ludlow area mines, I was trying to determine the 17 exact location of -- of those mines with regard to 18 the geology. 19 Q Okay. And can you tell me where those 20 are reflected on this map? I see, on your 21 pushpins; is that right? 22 A Yes, yes. 23 Q Okay. 24 A So you see there's -- maybe two-thirds 25 down the page almost, the Hammondsburg quarry,</p>	<p>1 And so there are pretty dramatic changes 2 and grades of metamorphism over short distances, 3 and I had to understand exactly where the mines 4 were with regard to the metamorphic histories 5 recorded by the rock units. 6 Q So how would you manipulate these maps 7 to assist you in -- in coming to that 8 understanding? 9 A I wouldn't manipulate them. I would 10 just refer to them. 11 Q Okay. And perhaps that's the wrong 12 term, but I assume you mean -- you're probably not 13 looking at map number 1, but you're looking and 14 trying to zoom in at times on maps 3 and 5 to get 15 a better sense of the surrounding geology. Is 16 that fair or -- 17 A As a geologist, I'm always moving in and 18 out of scales, from thinking about the whole state 19 of Vermont scale to, again, the micron scale and 20 samples. So, yes, moving in and out of zoom 21 ranges is part and parcel. 22 Q Sure. Is it important then in addition 23 to having sort of general maps or larger scale 24 maps to have those much more finite and detailed 25 maps of particular regions or areas?</p>

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<p>1 MR. FROST: Objection to form. 2 THE WITNESS: Yes, I found I was 3 referring to those in detail because some 4 bodies -- the level of detail shown in maps is a 5 function of the scale of the map itself. So the 6 1:24,000 quadrangle maps show some finer scale 7 details than the Ratcliffe map, but this was the 8 best map available, the most up to date, and the 9 best one for the -- the compilation of the data. 10 BY MR. BURNS: 11 Q And when you refer to the compilation of 12 the data, do you mean plotting these multiple 13 points, multiple mine sites on a single map? 14 A I mean, that's part of it again. It's, 15 again, understanding the -- the system, the 16 geologic system, the distribution of the rocks and 17 the rock types and those geologic structures such 18 as faults. 19 Q But if you were wanting to look at a 20 particular -- a particular mine site -- for 21 example, let's say the Argonaut mine or the 22 Johnson mine -- you wouldn't want to start -- stop 23 at map number 1 or even map number 3 or 5. 24 Would you want to get as much detail as 25 possible and as much of the minute scale as</p>	<p>1 ultimately wanted to opine on whether there was a 2 potential for asbestos contamination in talc 3 deposits in that mine, is it fair to say that you 4 would want to drill down on the most finite or 5 specific information, including maps on the 6 Argonaut mine, before you made that opinion? 7 MR. FROST: Objection to form. 8 THE WITNESS: I mean, maps are part of 9 it, but I was really looking at a much broader 10 range of petrological information. 11 BY MR. BURNS: 12 Q So is the answer then that you would not 13 want that fine level of detail? 14 MR. FROST: Objection to form. 15 THE WITNESS: I mean, the answer is it 16 depends. I mean, we're kind of -- I think I would 17 need more specific -- more specific questions in 18 order to give you a more specific answer. Sorry. 19 BY MR. BURNS: 20 Q Well, for example, if there was a 21 geologic map of the Argonaut mine available, would 22 you want to see that? 23 A I guess, yeah, if there was good data 24 and -- and context there. But I actually, you 25 know, felt that I had the information I -- I</p>
<p>1 possible when you were considering the geology of 2 the area? 3 MR. FROST: Objection to form. 4 THE WITNESS: Yeah, well, I mean it 5 depends on where the outstanding questions are, 6 where you're driven to, in that sense. 7 BY MR. BURNS: 8 Q Okay. Well, if the question -- 9 outstanding questions were, as they are in this 10 case, say, proximity of a talc deposit to 11 potential asbestos, amphibole or other materials, 12 would you want that higher scale, more minute 13 scale? 14 MR. FROST: Objection to form. 15 THE WITNESS: Again, I mean, you know, 16 what I'm driven to search for is a product of what 17 I'm -- I'm finding, and so -- and also what -- 18 what actually exists. 19 BY MR. BURNS: 20 Q Well, and maybe I can be clearer, and I 21 apologize if I'm not. 22 But as a scientist of your experience, 23 and clearly you have published a lot and have 24 significant length of time in this field, but if 25 you were looking at, say, the Argonaut mine and</p>	<p>1 needed based on the -- the resources that I looked 2 at to have what I think is a very good 3 understanding of the -- the petrology. 4 Q As a scientist, is it fair to say that 5 more information is better than less information? 6 MR. FROST: Objection to form. 7 THE WITNESS: It depends. It depends on 8 the quality of the information. 9 BY MR. BURNS: 10 Q Assuming that the quality is good, is it 11 fair to make that assumption? 12 MR. FROST: Objection to form. 13 THE WITNESS: I guess, yeah, we -- yeah, 14 information is good if there's -- if you're able 15 to evaluate the -- the real data and the -- the 16 methodology. 17 BY MR. BURNS: 18 Q Would it be important for you to 19 actually review data or maps that were prepared 20 by, for instance, a company actually operating the 21 mine and having day-to-day experience with the 22 extraction of minerals? 23 MR. FROST: Objection to form. 24 THE WITNESS: It depends what's -- you 25 know, what's shown on those maps, I suppose, in</p>

<p style="text-align: center;">Page 34</p> <p>1 terms of detail. 2 BY MR. BURNS: 3 Q I'm sorry. Did you -- 4 A Yeah, I mean, I was going to say, 5 again -- I mean, I really feel like I arrived 6 at -- at a place where I had the 7 information I needed to basically meet -- meet my 8 charge. 9 Because, again, I mean, what you see in 10 the rocks is -- is not -- is not random. What we 11 see is very specifically controlled by the bolt 12 composition of the rocks, the pressure and 13 temperature conditions under which they were 14 metamorphosed, the fluids that were present, 15 and -- so I really -- you know, a good deal of my 16 effort was really trying to understand, again, the 17 petrologic systems of -- of these rocks -- sorry, 18 these mines -- in detail. 19 And so, you know, that information 20 was -- was pretty clear from what I was able to 21 review in the literature. 22 Q Well, and just to be clear here, you're 23 speaking, I take it, of your opinion generally as 24 to the propensity for some of these formations to 25 result in asbestos contamination of talc; is that</p>	<p style="text-align: center;">Page 36</p> <p>1 And really it's about sort of the -- 2 understanding the location of these is what helped 3 me basically place these rocks in the context of 4 the -- the evolution of this region. 5 So again, yes, this was a starting point 6 for, again, sort of other literature searches 7 and -- and determining the -- the types of other 8 information I needed to compile. 9 Q But just so I'm clear at this early 10 stage in the deposition as to your opinion, is it 11 your opinion that there is no asbestos 12 contamination in the J&amp;J mines in Vermont? 13 A I see no -- 14 MR. FROST: Objection to form. 15 THE WITNESS: I see no evidence to 16 support the claim that there is asbestos in these 17 mines. 18 BY MR. BURNS: 19 Q Among the materials that you've 20 reviewed? 21 MR. FROST: Objection. 22 THE WITNESS: Well, I mean, my opinion 23 is my opinion, which is based on the review of -- 24 of multiple papers, maps, and reports, and so, you 25 know, I didn't really adopt something that was</p>
<p style="text-align: center;">Page 35</p> <p>1 right? 2 A Yes. 3 MR. FROST: Objection to form. 4 BY MR. BURNS: 5 Q And that is a general opinion, not a 6 specific opinion. Is that right? 7 MR. FROST: Objection. 8 THE WITNESS: That's pretty specific to 9 these -- to these mines. 10 BY MR. BURNS: 11 Q Well, so, for instance, did you use maps 12 1, 3 and 5 to reach the opinion that there was no 13 asbestos contamination in the talc that was mined 14 in what I will refer to as the J&amp;J mines? I think 15 you may use that term in your report as well. 16 A Yeah. Well, this was a starting point. 17 Q Yeah. What do you mean by "a starting 18 point"?</p> <p>19 A In other words, I had to know where the 20 mines were with respect to the geology of Vermont, 21 with respect to the structure. That is, again, 22 the result of multiple orogenic events that 23 basically have folded and stretched these rock 24 units that have a major impact, again, on the 25 distribution of different metamorphic grades.</p>	<p style="text-align: center;">Page 37</p> <p>1 stated in the literature. I -- I synthesized all 2 that information to arrive at the opinions I 3 presented in this report. 4 BY MR. BURNS: 5 Q No, and -- and we'll get back to that, 6 and I didn't mean to insinuate otherwise, Doctor. 7 My point was really simply that your 8 opinion is based on the materials you've listed in 9 your report; is that right? 10 MR. FROST: Objection to form. 11 THE WITNESS: Yes, I've provided the 12 reliance, and that is what I reviewed to arrive at 13 my opinions, yes. 14 BY MR. BURNS: 15 Q Okay. And so if it's not listed in the 16 materials that you relied on, then it's safe to 17 assume that it is not something that you utilized 18 to reach your opinion. 19 A I'm sorry, I couldn't hear -- 20 Q Certainly. 21 A -- the last part of your question. 22 Q Yeah, no problem. I -- I'll restate it. 23 So if -- if a material is not listed in 24 the materials upon which you relied in your report 25 or the supplemental listing that your counsel</p>

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<p>1 provided last night, then it's safe to assume that 2 you didn't rely on missing material to reach your 3 opinions. 4 MR. FROST: Objection to form. 5 THE WITNESS: I'm not sure what you mean 6 by relying on missing material. So -- 7 BY MR. BURNS: 8 Q I'll switch it around. Is there 9 anything besides those materials that you have 10 listed in your report or in the supplemental list 11 that we received last night on which you've relied 12 in reaching your opinions? 13 A No. To the best of my knowledge, I've 14 given you a complete list. Beyond, again, sort of 15 the -- my general experience and educational 16 background. Certainly that plays in. 17 Q Sure. So you began compiling the maps 18 that are reflected in 1, 3 and 5 in Exhibit 3 as 19 far back as 2017. 20 When -- when had you completed the 21 compilation of information that's reflected in 22 these maps 1, 3 and 5? 23 A Is this the first one? 24 I'm sorry, I'm just looking in detail at 25 what's listed --</p>	<p>1 Others, I -- I confirmed by -- you know, 2 I did some actual just general web searches. And 3 so, for example, I think some of the -- the mine 4 locations are based on having seen town meeting 5 documents where they talked about wastewater 6 permits and gave the actual road that the map was 7 located on. So it was kind of a variety of ways. 8 Q I see. Were there any other sources 9 that you used to create those pinpoints that you 10 can recall? 11 A No. I mean, nothing noteworthy. Again, 12 I mean, based on, you know, literature references 13 and then trying to confirm the most precise 14 location, like I said, with some of those permits 15 that I saw. 16 Q Okay. 17 A So... 18 Q Now, throughout the day we're probably 19 going to use the term "J&amp;J mines" just for ease of 20 reference in Vermont and elsewhere, and, you know, 21 between China and Italy, I can easily distinguish 22 those. 23 But what's your understanding of the J&amp;J 24 mines in Vermont that were used to source talc for 25 Johnson &amp; Johnson Baby Powder or Shower to Shower</p>
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<p>1 Q No problem. 2 A -- on here and trying to think if there 3 was anything added in the last year, but I would 4 say this has -- this has existed for a year or so. 5 The exact dates I don't remember. 6 Q And that's true of the zoomed-in 7 portions as well? 8 A Again, this is from a Google Earth 9 database, so you zoom in and zoom out in real 10 time. So... 11 Q The compilation of material doesn't 12 change. 13 A Right, that's correct. 14 Q Okay. Now, how did you establish the 15 location of the pushpins on the maps? 16 A Oh, there were a variety of methods. In 17 some cases locations were taken from the published 18 literature. And that could come in a variety of 19 ways, from actual GPS coordinates listed to 20 descriptions. 21 So, for example, the Newfane mine is 22 something that was basically a -- a description in 23 a paper that then I conferred with the detailed 24 quadrangle map to find the location, and then 25 added the pushpin to this larger scale map.</p>	<p>1 products? 2 MR. FROST: Well, I will just lodge a 3 general objection to referring to the mines as 4 "J&amp;J mines." If it's fine with you, we can call 5 it a standing objection so I don't have to object 6 every time you say it. 7 MR. BURNS: That's fine, yeah. 8 And just to cover your concern, I'm not 9 imputing in any way that they were owned by J&amp;J or 10 controlled. 11 MR. FROST: Okay. 12 MR. BURNS: That's a different issue. 13 BY MR. BURNS: 14 Q But really the source for baby powder 15 used in -- or talc used in baby powder or 16 shower -- Shower to Shower products. Sorry. 17 A Yes. 18 MS. O'DELL: Excuse me. You aren't 19 saying they weren't -- aren't presently, but they 20 could be known to produce. 21 MR. BURNS: Right. Right. Fair enough. 22 MR. FROST: Yep, that's fine. Just, you 23 know, I'll lodge my general objection, but I -- 24 MR. BURNS: Understood. 25 MR. FROST: -- for ease of reference,</p>

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<p>1 that's -- that's fine, pending my objection. 2 THE WITNESS: So my understanding is 3 that the talc for talcum powders came from the 4 Hammondsville, Argonaut and Hamm mines. 5 BY MR. BURNS: 6 Q And that's a complete list? 7 A As far as I -- 8 Q That you understood -- 9 A Yeah, for -- for Vermont, yes. 10 Q Now, you've included in your maps 11 pushpins for several other mines in the area. Why 12 did you do that? 13 A So, for example, the Frostbite mine, I 14 refer to a study by Robinson -- I believe that's 15 the name -- Robinson, et al., 2006. So they 16 looked at the Frostbite mine. 17 The Grafton mine was in the Sanford, 18 1982, paper that I cite. Newfane as well. 19 So in some cases, you know, these are 20 mines where there were detailed studies done that 21 are relevant to what I was trying to accomplish 22 in -- in terms of my understanding of the 23 petrology. 24 Q Okay. Now, can you -- I'm looking at 25 map number 1 and do not see the Argonaut mine</p>	<p>1 Q Now, you've referenced the Chester dome, 2 which appears kind of on the right-hand side of 3 the -- of many of these maps. 4 What is the significance of the Chester 5 dome? 6 A So, again, that's the main geologic 7 structure. I mean, I think it shows up probably 8 perhaps best on the Doll, et al., 1961, map here 9 in terms of that elongate north-south blob. 10 But again, this is a dome that has a -- 11 a sordid tectonic past. So the structure of the 12 dome is, again, the result of the tectonic Acadian 13 and the Alleghanian orogenies, and the -- the 14 metamorphism that's recorded by these rocks around 15 the dome is -- is -- basically it's dominated by 16 the -- the Acadian orogeny, and this is the time 17 at which the talc forms, during that tectonic 18 event. 19 But subsequently, the rocks have been 20 folded, so you have actually the deepest -- so the 21 rocks in the core of the dome record the highest 22 pressures and the highest temperatures, upper 23 amphibolite up to granulite facies. So that has a 24 direct control on the types of minerals that you 25 would see, for example, in the Grafton and the</p>
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<p>1 referenced there. Is that a function of the 2 scale? 3 A It is. And that's why part of the 4 motivation for blowing up certain regions for 5 detail, yeah, because those names would have 6 overlapped in the first, yes. 7 Q I see. It is reflected in number 3. 8 A Yes. 9 Q The third map. 10 A Yes. 11 Q Now, how -- now, Ratcliffe, 2011, was 12 cited in your original report. How, if at all, 13 did these maps 1, 3 and 5 inform your opinions in 14 your report? 15 A Well, again, it's the understanding of 16 where the mines are located relevant to the 17 geologic structure of the Chester dome, which 18 relates directly to the grades of metamorphism of 19 the rocks that are exposed on the surface around 20 the dome. 21 And so, again, this was kind of a 22 starting point in terms of location and units and 23 structure that then feeds into the petrological 24 analysis as a function of -- of metamorphic grade 25 and history.</p>	<p>1 Chester Carlton quarries. 2 And as you move, in this case, west or 3 north, you move to lower grades of metamorphism. 4 So, you know, the Hammondsville quarry is at a 5 lower metamorphic grade relative to the Grafton or 6 Chester Carlton quarries. The Argonaut and 7 Newfane mines, they're again sort of pre- -- 8 virtually similar to the Hammondsville. 9 So, again, you know, basically you've 10 got this high temperature, higher pressure suite 11 of rocks in the core of the dome and lower grade 12 rocks mantling it. 13 Q And when you refer to lower grades of 14 metamorphism, can you explain that? 15 A So, for example, in my report, I think 16 it's Figure 6, I've got a diagram with pressure 17 and temperature and different -- what geologists 18 call metamorphic facies. These are regions and 19 pressure temperature space where we expect rocks 20 of similar bulk composition to show similar 21 metamorphic assemblages as a function of those PT 22 conditions. 23 And so while rocks, say, at Grafton were 24 metamorphosed around 700 or 750 degrees C, 25 Hammondsville, Argonaut -- sorry, centigrade --</p>

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<p>1       Hammondsville and the Argonaut, Hamm, Newfane, 2       those were all at what we would say Greenschist 3       facies conditions, which is roughly in the range 4       of 550 to -- or -- well, to lower amphibolite, so 5       550 to 575 degrees C.</p> <p>6       Q    Okay. To shorthand that, and tell me if 7       I'm right or wrong -- and I appreciate your 8       answer -- compared to the Chester dome then, would 9       you say that the rocks in the J&amp;J mines were 10      formed in lower temperatures and lower pressure?</p> <p>11      A    Yes, compared to the core of the Chester 12      dome. So the center of that -- that elongate 13      body, lower temperatures of metamorphism and -- 14      and still relatively high pressures but lower 15      pressures as well.</p> <p>16      Q    And I heard you use the term "TP." Is 17      that temperature and pressure?</p> <p>18      A    PT, yeah.</p> <p>19      Q    Or PT, pressure and temperature.</p> <p>20      A    Yes, that's correct.</p> <p>21      Q    Okay. And it is PT, not TP?</p> <p>22      A    Maybe we say PT because TP sounds too 23      much like toilet paper.</p> <p>24      Q    That's a fair point.</p> <p>25      A    But, you know, they're just</p>	<p>1       that in the report, and I refer to Doll, et al., 2       1961, as well as Karabinos, 2010.</p> <p>3       Q    Now, the Doll maps here, tell me about 4       your process for preparing these maps. How did 5       you do it?</p> <p>6       A    Well, the Doll map preexisted me, my 7       birth, by ten years, but -- excuse me -- basically 8       by, you know, georeferencing the -- the map. So 9       you can line up the boundary of the state of 10      Vermont in the map with the boundary of the state 11      of Vermont that you see in -- in Google Earth. 12      And similar to the -- the bedrock map of Vermont. 13      So I basically had different layers on the Google 14      Earth map backdrop.</p> <p>15      Q    And what was your purpose for doing that 16      with the Doll maps?</p> <p>17      A    Well, it's, again, the same thing in 18      terms of seeing where the mines plot relative to 19      grades of metamorphism that are presented in -- in 20      this map.</p> <p>21      I mean, I guess I would say that -- 22      yeah, I mean, the purpose for choosing this map, 23      again, because it showed the -- the whole state. 24      The areas around the Chester dome have been 25      refined slightly by Karabinos, et al., 2010.</p>
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<p>1       abbreviations, shorthand, yeah.</p> <p>2       Q    Let's look at the Doll maps then, 2 and 3       4.</p> <p>4       Well, actually, just briefly before I 5       leave the Ratcliffe, 2011, these were produced 6       last night. Have these -- has the -- have the -- 7       let me strike that.</p> <p>8       Do the inclusion of these maps in your 9       supplemental materials provided last night 10      indicate in any way that they have altered or 11      changed the opinions in your report?</p> <p>12      MR. FROST: Objection to form.</p> <p>13      THE WITNESS: No. Again, these were 14      created prior to the submission of my report, and 15      in fact -- I mean, basically these -- there's a 16      version of this map as a figure in my report that 17      shows locations. So...</p> <p>18      BY MR. BURNS:</p> <p>19      Q    And is that true of the Doll maps as 20      well?</p> <p>21      A    Yeah, nothing has changed with respect 22      to the Doll maps. I -- I refer to the Doll maps 23      and the isograds, which again relates to the -- 24      isograd means, on a map, a contour of equal grade 25      of metamorphism. So I refer to -- I speak about</p>	<p>1       Q    Now, when did you prepare this map or 2       this overlay?</p> <p>3       A    As I said, I mean, I've had it for at 4       least a year on my computer. So -- again, this 5       was really the starting point of my -- my work on 6       this issue.</p> <p>7       Q    Okay. Now, map 4 is a zoom of map 8       number 2, correct, showing more clearly the 9       Chester dome?</p> <p>10      A    Yes.</p> <p>11      Q    And it also shows the Argonaut, Hamm, 12      and Hammondsville mines; is that right?</p> <p>13      A    Yes.</p> <p>14      Q    Okay. Among others.</p> <p>15      A    Yeah.</p> <p>16      Q    Okay. I'll drop that pen about 20 times 17      today, so don't worry.</p> <p>18      MR. BURNS: All right. How about we 19      take a short break, and when we come back, we'll 20      go through the other maps we got this morning.</p> <p>21      MR. FROST: Okay.</p> <p>22      THE VIDEOGRAPHER: Going off -- going 23      off the record at 10:27.</p> <p>24      (Recess.)</p> <p>25      THE VIDEOGRAPHER: We're back on the</p>

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<p>1 record at 10:46 a.m. 2 BY MR. BURNS: 3 Q Welcome back, Dr. Webb. 4 I'd ask you to turn to your list of 5 supplemental materials in Exhibit 3 again. It's 6 about 20 pages deep. 7 A Okay. 8 Q All right. And before we get there, I 9 was discussing with your counsel, and I understand 10 that the maps we had been discussing, the five 11 maps in Exhibit 3, those were contained in your 12 files; is that right? 13 A Yeah. I guess I'm confused by the 14 terminology -- 15 Q That's fine. 16 A -- of -- so -- 17 Q I understood that. I just want to make 18 it clear and hopefully -- 19 A Yeah. 20 Q -- save us some time. Those were maps 21 that you had developed and created, and -- and 22 presumably were saved on your computer; is that 23 fair? 24 A Yes. Yes. 25 Q Okay. And you provided those after</p>	<p>1 was a long time ago. 2 Q Now, did you -- did you read the actual 3 report? 4 A I went through sections of it. 5 Q Okay. Do you recall when you did that? 6 A It -- again, it would have been at the 7 time that I was putting together that Google Earth 8 project. So... 9 Q Okay. Can you describe for the Court 10 how, if at all, your review of this 1996 Ratcliffe 11 article informed your opinions that you're 12 offering in this case. 13 A Oh, like I said, basically the primary 14 purpose -- or one of the primary purposes for 15 looking at these was, again, to aid my ability to 16 put those pushpins in in the map. But especially 17 when there were -- I did look through the map 18 indexes, the descriptions of units, and also if 19 there were written reports, I looked through those 20 to see if there were incidences of reported 21 asbestos and, you know. 22 Q Do you recall anything specific about 23 this 1996 article that informed your opinions? 24 A No. 25 Q Now, Dr. Webb, we are going to hand</p>
<p>1 being requested to search your files by counsel? 2 A Yes. I think I understand the wording 3 now, yeah. 4 Q All right. Going back to that 5 supplemental list of materials reviewed, I want to 6 go through in detail each of the first five 7 entries. Starting with Ratcliffe, N.M., 8 parentheses, 1996, Preliminary Bedrock Geologic 9 Map of the Andover quadrangle, Windsor County, 10 Vermont, U.S. Geological Survey open file report, 11 parentheses, No. 96-32, scale 1:24,000. 12 Now, in addition to identifying what 13 will end up being a series of maps, this entry 14 also reflects an article; is that right? 15 A Yes, there was a written report that 16 accompanied this. 17 Q Okay. And when did you review this 18 report? 19 A Again, probably around a year ago or so. 20 I -- again, I added these to -- to the reliance 21 list in response to having generated the files 22 that we were looking at, the -- the Google Earth 23 images. So I recalled that I had a folder of maps 24 that -- that were used when I was generating the 25 pushpins, et cetera, on that -- on that. So it</p>	<p>1 you -- and this may be a little bulky, I 2 apologize -- Exhibits 4A, B and C. 3 MR. FROST: I was going to say is there 4 a better way -- a better place to put these? 5 Probably not. 6 MR. BURNS: We can put them back after 7 she identifies them. 8 MR. FROST: Yeah, I was going to say -- 9 I just want to make sure we have enough room to 10 even, like, plop them down here. Move my stuff 11 over. 12 (Webb Exhibit Nos. 4A, 4B and 4C 13 were marked for identification.) 14 BY MR. BURNS: 15 Q All right. Thank you. 16 So Exhibits 4A, B and C, do those 17 correspond to U.S. Geological Survey maps that are 18 associated with the Ratcliffe '96 report? 19 A Yes, these are three plates as part of 20 that report. 21 Q I see. And I think I understand based 22 on your testimony, but can you tell us again how, 23 if at all, you utilized these maps in reaching 24 your opinions or in your work? 25 A Yeah, so again -- well, I would just say</p>

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<p>1 with respect to this map, I think I used -- this 2 preliminary bedrock geologic map of the Andover 3 quadrangle had the written report associated with 4 it.</p> <p>5 And then the number 2 on that reliance 6 list is the digital bedrock map, so that actually 7 had the colored map. So I think I -- I referred 8 to the color version of the map because the 9 details jump out better at you, and then -- and 10 then looked at that in comparison to the -- the 11 written report.</p> <p>12 I mean, I'll be honest again, it's been 13 a while since I've looked at these, so I kind of 14 have to lay them down next to each other to figure 15 out their spatial relationships in terms of, you 16 know -- again, they would basically add up to what 17 we see in that Ratcliffe, et al., bedrock map.</p> <p>18 Q And that was maps 1, 3 and 5 of the 19 supplemental materials?</p> <p>20 A Yes.</p> <p>21 Q Okay. Thank you.</p> <p>22 And so did you obtain these maps at 23 about the same time you obtained the Ratcliffe 24 1996 report?</p> <p>25 A These are -- yes. I mean, these maps</p>	<p>1 A It would be about the same time 2 basically.</p> <p>3 Q And --</p> <p>4 MR. FROST: Excuse me.</p> <p>5 MR. BURNS: Bless you.</p> <p>6 BY MR. BURNS:</p> <p>7 Q Can you tell us whether these maps in 8 any way impacted your opinions that you rendered 9 in this case?</p> <p>10 A Well -- again, I mean, using them for 11 finding locations, so it was -- it was a starting 12 point. I would say also in terms of the review of 13 the -- the map unit descriptions and -- and the 14 reports, the -- the lack of any report of -- of 15 asbestos in -- in them, yes, was, in part, 16 contributed to my opinion.</p> <p>17 Q When -- when you said "the lack of any 18 report of asbestos in them," were you referring to 19 the elements on the map?</p> <p>20 A I mean in total, in terms of seeing 21 if -- if there's reference to -- yes, asbestos of 22 any type in terms of the description of the units 23 in the -- the map area, but also in terms of -- of 24 the descriptions in -- in the written report.</p> <p>25 Q Now, Dr. Webb, just so I'm not</p>
<p>1 are part of -- if you go to the USGS site for 2 that -- that report, you have access to the -- the 3 written report and these plates all together.</p> <p>4 Q I see. And so you obtained them at the 5 same time?</p> <p>6 A Yes.</p> <p>7 Q Okay.</p> <p>8 MR. BURNS: Why don't we hand her 9 Exhibit No. 2, and then we'll take them all away. 10 Or, sorry, Exhibit No. 5A and B, if I remember 11 correctly.</p> <p>12 (Webb Exhibit No. 5A and 5B were 13 marked for identification.)</p> <p>14 THE WITNESS: Okay.</p> <p>15 BY MR. BURNS:</p> <p>16 Q And, Dr. Webb, do these maps correspond 17 to the second entry on your supplemental list of 18 materials, Ratcliffe, N.M., 1996, digital bedrock 19 geologic map of the Andover quadrangle, Vermont?</p> <p>20 A Yes, they do.</p> <p>21 Q And were these the maps you were just 22 referencing and using the colored versions?</p> <p>23 A Yes.</p> <p>24 Q Okay. And when did you obtain these 25 maps?</p>	<p>1 testifying for you, when you were referring to 2 that area on the right-hand side of the map, 3 what -- what is represented there?</p> <p>4 Sorry, the right-hand side.</p> <p>5 A Oh, sorry. This is the description of 6 map units. So for each different colored map unit 7 on here, there is a -- an age assignment, as it's 8 understood, and a basic description of the rock 9 type.</p> <p>10 Q Okay. When you say "a basic description 11 of the rock type," what do you mean?</p> <p>12 A So right up at the top, it says, you 13 know, for example, a map unit that's sort of 14 purple, it says "DG," which stands for Devonian 15 dikes, and the description is by type, "muscovite, 16 granite." So short descriptions of both minerals 17 and/or rock names that are standard.</p> <p>18 Q Within that unit?</p> <p>19 A Within that unit and within, yeah, the 20 map area.</p> <p>21 Q Within the map. Okay.</p> <p>22 And you said there was an age identifier 23 as well?</p> <p>24 A Yes.</p> <p>25 Q Okay. How are those age identifiers and</p>

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<p>1 the rock or mineral identifiers developed? Who 2 does that?</p> <p>3 A It's the result of over a hundred years 4 of work of geologists out in this region, so -- 5 and USGS scientists, Vermont state geologists, 6 academics who are -- and students who are involved 7 in -- in mapping. So it's -- it's really a body 8 of information that is refined over decades and 9 decades of observation and analysis.</p> <p>10 Q I see. Now, when you said you would 11 look at the map units to -- and I'm not trying to 12 put words in your mouth, but --</p> <p>13 A Mm-hmm.</p> <p>14 Q -- you said you would look to the map 15 units to determine whether asbestos was 16 identified. Is that right?</p> <p>17 A Yeah. I mean, I was interested to see 18 if it was mentioned anywhere, and then I would 19 follow that -- that lead, but --</p> <p>20 Q And what type or what designated map 21 units would you be looking for to determine 22 whether asbestos was identified?</p> <p>23 A Well, it could be anything if it were 24 there, but, I mean, of -- you know, of specific 25 focus in this area of Vermont, of course, it's</p>	<p>1 THE WITNESS: They're the ultramafic 2 units that are -- that are the protoliths for 3 the -- the talc, ores in this case.</p> <p>4 BY MR. BURNS:</p> <p>5 Q How would they -- what's the association 6 with asbestos in that context?</p> <p>7 A Well, where asbestos is documented in 8 Vermont, it's associated with some ultramafic rock 9 units. More typically, I mean, the serpentinite 10 and talc and talc schist here, these are basically 11 the serpentinite formed during the tectonic 12 orogeny, the tale during the Acadian orogeny.</p> <p>13 The ultramafic rocks predated that. And 14 where the ultramafic rocks are larger bodies that 15 haven't been fully metamorphosed and 16 recrystallized during these subsequent orogenic 17 events, those are the rocks that -- that are 18 reported to occasionally have those asbestos 19 veins.</p> <p>20 Q Okay. Now, when you use the term 21 "asbestos," how would you define that term?</p> <p>22 A I'm using that to refer to the six 23 regulated minerals: So chrysotile, the 24 asbestosiform varieties of anthophyllite, 25 actinolite, tremolite, grunerite and riebeckite.</p>
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<p>1 the -- it's the ultramafic units.</p> <p>2 Q Okay. And who are those?</p> <p>3 A What kind of -- sorry, what kind of 4 information do you mean or are looking for?</p> <p>5 Q Ultramafic units, what do you mean by 6 that term?</p> <p>7 A Uh, right. So these are rocks that are 8 basically derived from Earth's mantle. They're 9 very rich in magnesium typically.</p> <p>10 Q And what are the -- can you give us some 11 examples of those asbestos-bearing rocks?</p> <p>12 MR. FROST: Objection to form.</p> <p>13 THE WITNESS: I can give you an example 14 of the ultramafic rocks --</p> <p>15 BY MR. BURNS:</p> <p>16 Q Yes.</p> <p>17 A -- that we were interested in about that 18 question.</p> <p>19 But -- so, for example, here it says, 20 "Ordovician to late Proterozoic ultramafic rocks. 21 Map units OZU and OZT, serpentinite and talc, and 22 also talc schist."</p> <p>23 Q And those are the types of ultramafic 24 units that might contain asbestos?</p> <p>25 MR. FROST: Objection to form.</p>	<p>1 Q And you did say tremolite, right?</p> <p>2 A Yes.</p> <p>3 Q Okay. Have you reached any opinions in 4 your report with respect to whether chrysotile 5 asbestos may be found in the J&amp;J mines?</p> <p>6 A I have not seen any indications of that. 7 And again, the chrysotile that is reported in -- 8 in Vermont, it formed during the tectonic orogeny, 9 generally at relatively low grades of metamorphism 10 in conjunction with like fracturing and fluid 11 infiltration of the rocks.</p> <p>12 So, if it were present in the J&amp;J mines, 13 as we're referring to them, those units underwent 14 very extreme metamorphism, deformation and 15 recrystallization during the Acadian orogeny.</p> <p>16 So, again, I haven't seen any chrysotile 17 reported in -- in the area in that general belt of 18 ultramafic rocks that we're concerned with, and if 19 it had been present, I wouldn't expect it to 20 survive the -- the Acadian metamorphic event.</p> <p>21 Q And when you -- just to be clear, when 22 you say you haven't seen any indication of the 23 chrysotile, I assume you're referring to -- you 24 are referring to in the list of materials you've 25 reported in your report; is that correct?</p>

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<p>1 MR. FROST: Objection to form. 2 THE WITNESS: Yeah, I -- yeah. So, I 3 mean, I -- in the documents reviewed. In the 4 studies that I -- I looked at, no. 5 BY MR. BURNS: 6 Q All right. I think we can take these 7 away. 8 A Thank you. 9 Q Now, I'm going to hand you a few 10 documents under Exhibit 6. 11 (Webb Exhibit No. 6 was marked for 12 identification.) 13 BY MR. BURNS: 14 Q Oh, just one document under Exhibit 6. 15 A Okay. 16 Q All right. Now, exhibit -- does 17 Exhibit 6 correspond to the third entry in your 18 supplemental list of materials, Ratcliffe, N.M., 19 2000, bedrock geologic map of the Cavendish 20 quadrangle, Windsor County, Vermont? 21 A It does, yes. 22 Q Okay. And was there a report associated 23 with this map? 24 A Not that I -- that I can recall, no. 25 Q And when did you obtain this map?</p>	<p>1 kilometers of -- of offset, like the San Andreas 2 Fault, up to 300 kilometers there. 3 Here, there's a normal shear zone -- and 4 I'll just explain that in a second -- a normal 5 shear zone that bounds the -- the Chester dome, 6 and it's a -- it's a high -- what we would call 7 high strain, meaning if you started out with a -- 8 something like a ball, it would be stretched 9 into -- it could be a big, flat pancake or it 10 could be a long cigar shape, or it depends on the 11 nature of the deformation. 12 But basically the shear zone that 13 outlines the Chester dome is the -- is part of 14 what's responsible for the -- the major 15 differences in the temperatures -- the higher 16 temperatures that are recorded in the core of the 17 dome relative to the units that flank it. 18 So, the Hammondsburg unit would have 19 been up here, and the core of the dome would have 20 been up here, and after the faulting, basically 21 they would be juxtaposed, and there would be a 22 strong temperature and deformation gradient across 23 that boundary. 24 Q And the last term you used "in gradient"?</p>
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<p>1 A Again, it would have been at the same 2 time as the others, a year ago or so. 3 Q Okay. And to what purpose did you put 4 the data reflected in this map? 5 A I'm sorry. Can you -- 6 Q To what purpose did you put the data 7 reflected in this map or this map itself? What 8 did you do with it? 9 A Well, so this is -- I can recognize this 10 right away. This is the northern end of the 11 Chester dome, and so there are these small units, 12 OZU -- I think it says OZU. So this is the 13 Hammondsburg mine, and it's basically at the 14 northern end of this map. 15 And so, again, an important aspect of -- 16 of this and the detailed position of that 17 ultramafic body or the talc ores that are 18 associated with it, is its position relative to 19 this fault that outlines the -- the Chester dome. 20 Q Again, what is a fault? 21 A So a fault is a geologic structure 22 across which there is displacement, and that 23 displacement could range from -- I mean, we have 24 microfaults, so it could be millimeters or 25 centimeters of offset, and in some cases, you have</p>	<p>1 A A temperature -- 2 Q Or gradient? 3 A A temperature and -- temperature, 4 pressure, and deformation gradient. 5 Q And when you say that, what do you mean? 6 A Well, I mean that over a short distance, 7 you could walk across rocks that record very 8 different temperature and pressure conditions 9 of -- of metamorphism. In terms of the 10 deformation gradient, that would be going from 11 rocks that -- I mean, everything is deformed here, 12 but that are less deformed into rocks, that are 13 more intensely deformed and stretched, and then 14 back out into a lower strain or less deformation. 15 Q I see. Now, are fissures commonly 16 associated with fault lines? 17 A They can be, but it depends on, again, 18 the pressure, temperature, conditions. So this is 19 really -- I mean, this -- this fault zone, the 20 temperature gradient across it, again, is kind 21 of in the range from, say, 700 degree C to, say, 22 550 degrees C. And at those temperatures -- and 23 it also depends on the details of the mineralogy, 24 but in general that's hot enough where minerals 25 are deforming by slip along the crystallographic</p>

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<p>1 planes. So we refer to that as ductile 2 deformation. 3 So when you have deformation occurring 4 under these higher temperature conditions, we tend 5 to not have voids or fissures opening up. That's 6 much more common in low temperature deformation 7 environments where the rocks are deforming 8 brittely. 9 Q Okay. Do you know whether in fact there 10 are fissures associated with this fault line 11 around the Chester dome? 12 MR. FROST: Objection to form. 13 THE WITNESS: I have not seen really any 14 descriptions of such features. Again -- and in my 15 experience, I've actually worked in the shear zone 16 some, so my observation of rocks in the shear zone 17 is that it's more a continuum of ductile 18 deformation. We haven't -- haven't seen, yeah, 19 fractures opening up, filling with other minerals, 20 et cetera. 21 BY MR. BURNS: 22 Q How would you identify a fracture or -- 23 are fracture and fissure synonymous? 24 A Yeah, I mean, we don't really use the 25 word "fissure" in geology so much, or at least not</p>	<p>1 that have moved through there, you might have 2 crystallization of minerals. 3 Q And would that be what you were 4 referring to a few minutes ago when you said -- 5 referred to sort of minerals filling in the 6 fracture? 7 MR. FROST: Objection to form. 8 THE WITNESS: Yeah, I mean -- yeah. 9 BY MR. BURNS: 10 Q As a general principle, when you have 11 lower pressure and lower temperature, are the odds 12 greater that you would have or could have an 13 influx of water or liquids? 14 MR. FROST: Objection to form. 15 THE WITNESS: I mean, fluids will 16 preferentially follow pathways, such as faults and 17 fractures potentially, yeah. But, again, it 18 depends on a lot of variables. Yeah. 19 BY MR. BURNS: 20 Q Okay. I think that moves number 3. 21 And just so I'm sure, was there anything 22 in particular about Exhibit 6 there that impacted 23 or informed your opinions? 24 A Well, again, it's the finding the 25 location of the Hammondsburg mine with regard to</p>
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<p>1 in my lexicon. But I think, you know, it's pretty 2 similar. I mean, a fracture -- and, again, 3 there's different types of fractures. There are 4 fractures that the rocks just pull apart. There 5 are fractures where there's some, like, little bit 6 of slip along them, and actually there's a slip 7 this way or slip this way, so there's mode 1, 2 8 and 3 of fractures, yeah. 9 Q Okay. So how would you identify, in the 10 field, a fracture? 11 A Uh, well, it's -- usually you would see 12 some -- a feature that crosscuts structural fabric 13 in the rock. So these rocks out here are highly 14 foliated, means that -- what that means is that 15 basically during the deformation, there are planar 16 elements that form. It could be defined by 17 compositional banding. It could be defined by the 18 preferred orientation of minerals are in the -- in 19 the talc. Often that's the -- all the talc plates 20 would be aligned in that foliation plane. And so 21 there would be some truncation of that -- that 22 fabric. 23 And it depends on when the fracture 24 forms. If it formed very recently, it might just 25 be an -- an open space, but if there are fluids</p>	<p>1 the details of the map. 2 Q Okay. 3 A And moving from there. 4 Q Thank you. 5 I'm now going to hand you Exhibit No. 7, 6 and take No. 6. 7 (Webb Exhibit No. 7 was marked for 8 identification.) 9 THE WITNESS: It would help if I had 10 north up. (Peruses document.) 11 BY MR. BURNS: 12 Q Ready? 13 A Oh. Yes, sorry. 14 Q No, no problem. 15 A I can look at it all day. 16 Q So does -- Dr. Webb, does Exhibit No. 7 17 correspond to the fourth item on your supplemental 18 list of materials, Ratcliffe, 2000, bedrock 19 geologic map of the Chester quadrangle, Windsor 20 County, Vermont? 21 A Yes. 22 Q And was there an associated report? 23 A I -- I don't recall offhand on this one. 24 Q With respect to this map, what was 25 your -- when did you obtain it?</p>

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<p>1       A Again, it would have been at the same 2 time. 3       Q And what was your purpose in obtaining 4 it? 5       A Oh, again, just -- I mean, I was just 6 sort of gathering the quadrangle maps for the 7 region in general. This one, I do not believe we 8 see any of the -- the different talc mines, but I 9 think this is the southern -- sorry, the more 10 southern half of the -- the Chester dome. 11      Q I see. So none of the J&amp;J talc mines 12 are represented on that map? 13      A No. I don't believe so, but I'd have 14 to -- can I confer with my report map for a 15 moment? Oh, this is not the colored one. 16      MR. FROST: Do you want a color -- I'm 17 just showing her a color copy of the same page. 18      THE WITNESS: Yeah, so this is -- yes, 19 this is the southern half of the Chester dome, 20 and, no, none of the mines are located in the map 21 area here. 22      BY MR. BURNS: 23      Q Okay. All right. Let's go to Exhibit 24 No. 8. 25      And this is going to be 8A and B.</p>	<p>1       from you. 2            MR. BURNS: Can we mark that as 3 Exhibit 9. 4            MR. FROST: This is what, Zodac? 5            MR. BURNS: Yeah. 6            (Webb Exhibit No. 9 was marked for 7 identification.) 8      BY MR. BURNS: 9            Q Dr. Webb, I've handed you Exhibit 9, 10 which I believe corresponds to number 6 on your 11 supplemental list, Zodac, P., 1940, a talc quarry 12 near Chester, Vermont; is that correct? 13      A That's correct. 14      Q And it's published in Rocks &amp; Minerals; 15 is that right? 16      A Yes. 17      Q How, if at all, did this article inform 18 your opinions? 19      A I looked at this after I had written my 20 report, so it's -- it's not reflected in my 21 report. 22      Q Did it change your opinions at all? 23      A No. 24      Q Have any impact? 25      A No.</p>
<p>1            (Webb Exhibit No. 8A and 8B were 2 marked for identification.) 3      BY MR. BURNS: 4      Q Dr. Webb, do Exhibits 8A and B relate to 5 the fifth entry on your supplemental list of 6 materials, Ratcliffe and Armstrong, 2001, bedrock 7 geologic map of the Saxtons River in Windham and 8 Windsor Counties, Vermont? 9      A Yes. 10     Q Okay. And was there an associated 11 report? 12     A Again, I don't remember specifically 13 for -- for this one. I'd have to look at the 14 website or my files. 15     Q And did you obtain these maps at roughly 16 the same time as you obtained the preceding maps? 17     A Yes. 18     Q And were these maps again generally used 19 to plot the location of the mines and -- and your 20 inquiry into them? 21     A Yeah. Again, this -- this one is sort 22 of the southwestern end of the -- the Chester 23 dome. So I recognize this -- this lobe. None of 24 the mines are in this specific map area. 25     Q Okay. All right. We can take that map</p>	<p>1       When did you first read this? 2       A Three weeks ago or so. 3       Q So early March? 4       A Yes. That's about right. 5       Q Okay. Did you -- did you find this 6 article yourself or was it provided to you? 7       A I found it myself. 8       Q Okay. And why were you looking for it? 9       A Because I was reviewing the literature, 10 again just in general preparation, and I came 11 across this article cited in -- I believe it was 12 Van Gosen, 2004, and I just thought I should -- I 13 realized I hadn't seen it and I thought I should 14 look. 15      Q And when you say you were reviewing the 16 literature, the literature with respect to what? 17      A I mean just the things that are -- I've 18 cited in my report or in the reliance list, but 19 just -- there's so much information that I -- to 20 keep nimble, just to kind of constantly trying to 21 review and -- and remember. 22      Q When you were reviewing the literature, 23 did you come across any studies or reports or 24 articles that were contrary to your opinions 25 expressed in your report?</p>

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<p>1        A No, not really. I mean, I -- I -- as I 2        said, I spent some time looking in -- in detail -- 3        well, a wide variety of literature, and for 4        example, that included Van Gosen, et al., 2004, 5        and -- and the 2006 articles that I cited in -- in 6        my report. Some of those are summary articles, 7        and so I really tried to go in and look at the 8        primary literature, not to rely on -- on someone's 9        summary. 10       But, you know, the Van Gosen, 2006, 11       seemed relevant to follow up on the details of the 12       citations, because in there -- in that report he 13       published a map of asbestos localities in Vermont. 14       Q Now, you mentioned primary literature. 15       What do you mean by that? 16       A I mean that I -- so, for example, the 17       Van Gosen, 2006, map and digital supplements, what 18       Van Gosen put on the map in terms of the 19       localities where asbestos was presumably reported 20       were not his first order observations. He had a 21       citation list of the -- the people who made -- you 22       know, presumably said that there was asbestos 23       there. And -- and so I -- you know, I drilled 24       down into that literature to try and see what 25       information was in those articles, if I could</p>	<p>1        know, also the health implications for the people 2        locally. So, I mean, you know, that -- it's the 3        kind of thing that I think you want to be pretty 4        certain about if you make that claim. 5        Q Do you know whether Van Gosen was -- 6        felt pretty certain about it? 7        A I have no idea. I mean, I imagine, if 8        he put that out there, but I don't know. 9        Q Were you ever provided details about the 10       years in which the J&amp;J mines were in operation? 11       MR. FROST: Objection to form. 12       THE WITNESS: I mean, I think I have a 13       general sense from the sum of what I've read, 14       which includes, you know, testimony in 15       depositions, but -- I have an idea, but it -- you 16       know, it wasn't -- the exact years weren't really 17       critical for what I was doing. 18       BY MR. BURNS: 19       Q Were you ever informed that J&amp;J sourced 20       talc from the Johnson mine? 21       A No. 22       MR. FROST: Objection to form, 23       belatedly. 24       THE WITNESS: I mean, not for cosmetic 25       purposes.</p>
<p>1        verify basically the locations that he had shown 2        on his map and understand their relationship to 3        the -- the talc mines. 4        Q Were you able to verify those locations? 5        A Well, I was able to look at the 6        literature that he cited, but in some cases, 7        the -- the articles that he cited as reporting 8        asbestos actually cited another article, and when 9        I went to follow that trail, there was nothing in 10       there in terms of a detailed locality. So I 11        actually found that there were several dead ends. 12        Q Did that cause you to discount 13        Van Gosen? 14        A Well, I mean, yeah, it gives me pause 15        if -- because obviously there are big implications 16        when you publish a map and say there's asbestos 17        here, here, here and here, that if I couldn't 18        verify the -- you know, the citations that were 19        the basis of -- of that map, that -- that's, yeah, 20        an issue, I think. 21        Q Now, when you say "big implications," 22        what do you mean? 23        A Well, property values for people. I 24        mean, obviously if -- I know that's been an issue 25        up around Mount Belvidere, et cetera, but, you</p>	<p>1        BY MR. BURNS: 2        Q Were you provided any information 3        whatsoever on the Johnson mine? 4        MR. FROST: Objection to form. 5        THE WITNESS: No. 6        Well, I will say that -- actually 7        correct one thing, in the sense that I saw a 8        reference to it in the plaintiffs' reports and a 9        citation for a Seymour thesis. So I did ask -- I 10        wasn't able to access that thesis, so I asked 11        counsel to provide that, if possible. 12        BY MR. BURNS: 13        Q And were you provided it? 14        A Yes. 15        Q Did you review it? 16        A I had a look at it. But, you know, the 17        Johnson mine is so far up north and in a different 18        portion of the belt that it -- it didn't really 19        factor into my opinion. 20        And even though it makes reference I 21        think to the Hammondsburg mine, I -- I wasn't -- 22        I don't know. A master's thesis isn't -- that 23        makes peripheral reference isn't what I'm going to 24        consider as like the key piece of information that 25        my report would hinge on.</p>

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<p>1 Q Is it your opinion then that the areas 2 of the Johnson mine and the Hammondsburg mine are 3 geologically distinct then? 4 A Yes. 5 Q Now, in your supplemental materials that 6 were provided last night, right before the maps in 7 Exhibit 3, there is a spreadsheet for the Pooley 8 report in Vermont. 9 A Yes. 10 Q And can you tell me what's reflected 11 here? 12 A So when I reviewed the Pooley report, I 13 created this table to basically write notes about 14 his descriptions of the mineralogy, whether the 15 mineral was a major or minor component of the rock 16 or an accessory mineral, and -- and the different 17 textures that were either described or present in 18 the photomicrographs. 19 Q So these are your notes on the Pooley 20 report? 21 A Yes. 22 MR. FROST: Objection to form. 23 THE WITNESS: I mean, it was a way -- a 24 way to sort of organize the -- the data, yeah. 25 BY MR. BURNS:</p>	<p>1 reading something, I make notes like this to just 2 sort of help process the -- the information. 3 So -- and it gave me a quick way to refer -- if I 4 wanted to refer back to his report to check on 5 something, this gave me sort of a quick way to 6 navigate to, say, a particular sample, et cetera. 7 Q Did you try to be as thorough as 8 possible in -- in recording the information from 9 his report? 10 MR. FROST: Objection to form. 11 THE WITNESS: Yeah, I mean I -- I 12 worked -- as I read the results or the 13 descriptions of a particular sample, I -- I made 14 these notes. So -- I certainly wouldn't be 15 motivated to have it be inaccurate, but -- 16 BY MR. BURNS: 17 Q Okay. And your recollection of the 18 Italian spreadsheet or form, can you talk about 19 that a little bit. Were you doing the same thing? 20 A It's the same thing in terms of 21 headings across the top would relate to the 22 samples that he had petrographic descriptions for. 23 And then the -- sorry, and then in the first 24 column would be the -- the list of the different 25 minerals that were mentioned. And so it would be</p>
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<p>1 Q When did you make these notes? 2 A Oh, I'd say in January probably. 3 Q And that's 2019? 4 A Yes. Yeah. 5 Q Okay. 6 A Well, actually, I'll take that back. 7 The Pooley report would have been sometime earlier 8 for Vermont, but the -- the Italian -- there was a 9 table for the Italian. 10 Q So you have another table for the 11 Italian mine? 12 A It's the same form, yeah. Basically, 13 yeah. 14 MR. BURNS: Jack, if you can find that. 15 MR. FROST: We'll take a look, and we'll 16 figure out if it's in there or not. 17 THE WITNESS: Yeah, it would have been a 18 second tab in the Excel file, I think. 19 MR. FROST: Yeah, we'll take a look. 20 We'll get back to you after a break. 21 MR. BURNS: Sure. 22 BY MR. BURNS: 23 Q What use did you put to this table? How 24 did you use it, if at all? 25 A Well, sometimes -- I mean, I -- as I'm</p>	<p>1 the same format with the major, minor, accessory, 2 and any notes related to the -- the textures 3 observed. 4 Q Now, you prepared this before your 5 original report? 6 A Yeah, the -- the Pooley report from 7 Vermont is actually the -- the first document I 8 ever saw, and it was prior to when I was retained. 9 So this -- it would -- yeah, the first time I saw 10 this report would be back in probably May of 2017. 11 I think I made the table during that summer, 12 but... 13 Q Okay. And with respect to the Italian 14 report? 15 A Again, I think -- I think I saw that -- 16 that prior to this litigation, but that table I 17 created -- I rereviewed the report, I think, as I 18 said, in January and created that table at that 19 time. 20 Q And that's the Italian table, just to be 21 clear? 22 A Yes. 23 Q So the Pooley report for Vermont, you 24 reviewed sometime summer of 2017? 25 A Yes.</p>

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<p>1 Q And created this table?</p> <p>2 A (The witness nods.)</p> <p>3 Q Now, preceding that, there are graphical representations that look pretty similar to some of the things in your report.</p> <p>4 Can you tell us what the two preceding pages encompass?</p> <p>5 A Yeah, so there's -- yeah. It's basically this was an early version of the -- the table that shows up in -- in my report. There's some places where I just had some other notes that I -- that I jotted down.</p> <p>6 So -- yeah, it's a bigger spreadsheet, so it shows this -- it would be continuous in my Excel file, but it shows up on multiple pages here.</p> <p>7 Q I see. So --</p> <p>8 A So page 1 would be the first column that would line up with page 2, and --</p> <p>9 Q Okay. So the first column would be --</p> <p>10 A The mineral name.</p> <p>11 Q -- mineral and talc, and then the second column would be formula. Correct?</p> <p>12 A Correct, yes.</p> <p>13 Q Okay. And what is the next page then?</p>	<p>1 A Yes.</p> <p>2 Q And was that for purposes of the MDL?</p> <p>3 A That was prior to being brought into this.</p> <p>4 Q Prior to being brought into this case?</p> <p>5 A Yes.</p> <p>6 Q I see. Were you retained generally or was it for a specific litigation?</p> <p>7 A I was retained generally. My understanding is there was sort of a -- a reorganization, and I have no idea how this works, but -- of who deals with --</p> <p>8 MR. FROST: I was going to say, I'd instruct you not to talk about what any of the lawyers --</p> <p>9 THE WITNESS: Oh, okay.</p> <p>10 MR. FROST: -- have told you about, you know, but --</p> <p>11 THE WITNESS: I was asked to sign a new retainer in October because of something that, I don't know, was reorganized in the structure of things, and so I signed a new retainer with Tucker &amp; Ellis.</p> <p>12 BY MR. BURNS:</p> <p>13 Q So Tucker Ellis replaces the Shook Hardy</p>
<p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p>	<p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p>

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<p>1 that you sent to Tucker Ellis; is that correct? 2 Three of them?</p> <p>3 A Sorry, following that, is that -- yes. 4 Q And the details of those invoices are 5 redacted; is that right?</p> <p>6 A Apparent- -- yes. 7 Q Okay. Do you recall whether the 8 redacted portions -- I'm not going to ask you what 9 they say -- but do you recall whether they 10 reflected communications with your counsel?</p> <p>11 A There was some of that in there. 12 Q Okay. Was there other 13 noncommunication-related detail around your work?</p> <p>14 MR. FROST: Objection to form. 15 THE WITNESS: Noncommunication-related, 16 you said?</p> <p>17 BY MR. BURNS: 18 Q Yes. 19 A Yes. 20 MR. BURNS: And we would ask, Mr. Frost, 21 that y'all review those redactions to determine 22 whether there are any pieces that can be produced. 23 MR. FROST: I'll take it under 24 advisement. 25 BY MR. BURNS:</p>	<p>1 THE VIDEOGRAPHER: Going off the record 2 at 11:41 a.m. 3 (Recess.) 4 THE VIDEOGRAPHER: We are back on the 5 record at 11:58 a.m. 6 BY MR. BURNS: 7 Q Welcome back, Dr. Webb. 8 So, Dr. Webb, we're going to start going 9 through your qualifications, your background and 10 experience. It's the next step on our journey. 11 In the supplemental materials you -- 12 your counsel provided last night, there is a CV or 13 resume on -- let's see -- it's right past the 14 supplemental list. 15 A Okay. 16 Q Now, is this your current CV? 17 A I believe so. I haven't checked what's 18 in here, but I did send them an -- an updated CV 19 that was included. 20 Q Okay. Now, I take it you graduated high 21 school in 1990? 22 A 1989. 23 Q Oh, '89. All right. Well, we're only a 24 year apart. But you got your Bachelor of Science 25 in geology at UCLA; is that right?</p>
<p>1 Q Okay. Well, I'll put this back up 2 because we've hit something of a milestone, 3 Dr. Webb, and I think we've largely exhausted most 4 of the portions of the subpoena. So we can check 5 that off, and we'll go to your qualifications. 6 MR. BURNS: Given where we're at, it 7 might make sense to take a break. 8 MR. FROST: I was going to say we can 9 take a break now. I don't know what your plan is 10 for lunch. I don't know how long the 11 qualifications is going to take. You know, I 12 would say if it's going to take a half hour, you 13 might want to do that, and then break for lunch. 14 If you think it's going take a little longer, we 15 can, you know -- 16 MR. BURNS: Yeah, it might. 17 MR. FROST: -- take a really short break 18 now, and then maybe break for lunch at 1:00. 19 MR. BURNS: Yeah, that's fine. Why 20 don't we take -- 21 MR. FROST: Maybe you may want to take a 22 short break, and then -- 23 MR. BURNS: Sure. 24 MR. FROST: -- we'll make it through 25 this area.</p>	<p>1 A Yes. 2 Q And from there you went to Stanford? 3 A Correct. 4 Q And in 1999, you received your Ph.D. 5 doctoral degree in geological and environmental 6 sciences; is that right? 7 A That's correct. 8 Q Now, did you have a specific area of 9 emphasis in your doctoral work? 10 A Well, there were two main projects 11 thematically, but they basically involved 12 development of the same areas of expertise, and 13 that is petrology and, more specifically, 14 metamorphic petrology being a focus of my work: 15 The study of rock structures or rock deformation 16 and its relationship to metamorphism; and then 17 also the radio- -- excuse me -- the radiometric 18 dating of minerals to then understand the -- the 19 timing of metamorphism and deformation. 20 Q All right. Can you describe what 21 radiometric dating of minerals involves. 22 A Yeah. So for many elements, there are 23 different isotopes, which differ in the number of 24 neutrons in the atom. Some of these are 25 radioactive, so in particular, my -- the technique</p>

<p style="text-align: center;">Page 90</p> <p>1 we do in my laboratory is -- is fundamentally 2 based on the decay of potassium 40 -- that's the 3 isotope number -- to argon 40. 4 And so -- but we do a variation on that 5 that I can describe if you want. But basically, 6 we analyze the -- the isotope ratios of the 7 radioactive parent and the daughter product to 8 determine an absolute age. 9 Q And by "absolute age," what do you mean? 10 A That would be, say, to say -- calculate 11 an age of like 544 million years rather than 12 generally referring back to the Cambrian or 13 something like that. So... 14 Q I see. So in layman's terms, if I could 15 hand you a rock, theoretically you could take it 16 back to your laboratory and date it through that 17 process? 18 A Yeah, as long as -- in my case, as long 19 as there are potassium-bearing minerals. 20 Q I see. And do those attend certain 21 types of rocks? 22 A Yes. It's all a function of the bulk 23 composition of -- of the rock. But, yeah, 24 certain -- certain rocks you can -- are pretty 25 much guaranteed you can find these potassium-</p>	<p style="text-align: center;">Page 92</p> <p>1 ores of pure talc and magnesites, they would not 2 be the ideal targets for that. 3 Q I see. During your doctoral work at 4 Stanford, did you perform any studies or -- or let 5 me leave it there. 6 Did you perform any studies that 7 involved talc as a mineral? 8 A There was talc present in -- in some 9 rocks, yes. 10 Q But did you -- were you focused on the 11 talc itself or focused on some other aspect of the 12 rock? 13 A Well, I was focused on -- I mean, again, 14 the same basic principles, understanding the 15 mineralogy and the textures in different rocks, 16 the relationship of that as deformation, and then, 17 again, based on the -- the thematic problems I was 18 working on, you know, finding other targets for -- 19 for dating. So it wasn't basically focused on -- 20 on talc itself, but... 21 Q Did you do any work that was 22 specifically focused on asbestos? 23 A No. 24 Q Now, your doctoral dissertation was in exhumation of high and ultra high pressure rocks</p>
<p style="text-align: center;">Page 91</p> <p>1 bearing minerals in, yeah. 2 Q I see. Are there certain rocks that are 3 on the other end of that equation where you can 4 assume that you don't have those potassium-bearing 5 mineral -- minerals? 6 A Yes. 7 Q What types of rocks are those? Do you 8 have some examples? 9 A Well, so rocks that don't have 10 significant potassium in them, like the ultramafic 11 rocks, for example, or a quartzite or a marble 12 or -- I mean, sometimes we can do a whole rock 13 analysis. But, yeah, I mean, the -- the -- 14 generally the mineral -- mineralogy is a function 15 of the bulk composition among the other variables 16 of metamorphism. 17 Q I see. So with respect to talc then, 18 it's fair to assume that you're not ordinarily 19 using rocks containing talc mineral -- minerals in 20 your dating process. Is that fair? 21 A Well, there -- there may be the 22 possibility of that, but -- again, it just depends 23 on the bulk composition of the -- of the rock and 24 the -- and the history. 25 But, you know, pure -- like these talc</p>	<p style="text-align: center;">Page 93</p> <p>1 in the Qinling-Dabie -- 2 A Qinling, yeah. 3 Q -- Qinling-Dabie -- is it Dabie or -- 4 A Dobby (phonetic). 5 Q Dobby (phonetic). 6 -- Qinling-Dabie orogen? 7 A Yes. 8 Q Eastern China and -- 9 A The Yagan-Onch Hayhan metamorphic core 10 complex. 11 Q All right. And we are going to have to 12 spell this -- 13 MR. FROST: I was going to say, we'll 14 get you a list. 15 BY MR. BURNS: 16 Q Can you describe generally what this 17 dissertation was about? 18 A Yeah. So those -- those are actually 19 two projects in that -- that title. So the 20 "Exhumation of high and ultra high pressure rocks 21 in the Qinling-Dabie Orogen," so there we had 22 basically a continental collision that occurred at 23 the end of the Permian, early Triassic, and you 24 had the leading edge of the continental margin 25 went down a subduction zone, down to mantle</p>

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<p>1      depths, like 90, 100 or more kilometers depth, and 2      somehow those rocks came back to the surface. And 3      so in some of those rocks, little bits of carbon 4      turned into microdiamonds and quartz turned into 5      coesite, a high-pressure polymorph, as a function 6      of having reached those high pressures, and 7      somehow they were brought back to the surface. 8      And so when I was in my Ph.D., this was 9      early after the first reports of these ultra high 10     pressure rocks at the surface, so we went to the 11     Qinling-Dabie Orogen, which was one of the largest 12     orogenic belts where this was recorded, to try and 13     again document the different metamorphic 14     assemblages, their relationship to different 15     fabrics that would form during deformation, during 16     exhumation, and also to try and date the timing of 17     when did the rocks first reach those depths and 18     how, and how fast did they come back to the 19     surface. 20     So it's really an integrative piece of 21     metamorphic petrology, structural geology, and 22     again the radiometric dating. 23     Q    Did you figure out how they came back 24     up? 25     A    Yeah.</p>	<p>1      A    Yeah. Well, that -- in the thin 2      section, look at the microstructure and integrate 3      that back into the outcrop and regional scale. 4      Q    And you were also able to date the 5      rocks; is that right? 6      A    Yes. 7      Q    Okay. Now, after you received your 8      Ph.D., it looks like you went to the University of 9      Geneva in Switzerland; is that right? 10     A    That's correct, yes. 11     Q    And what did you do there? 12     A    I -- well, I worked in the -- the 13     argon -- so this is the same type of lab that I 14     have here at UVM, but the argon laboratory, and -- 15     pardon me. 16     Q    That's okay. 17     A    There I was working with igneous 18     petrologists, and so we were dating some samples 19     from the -- the Andes. 20     Q    And from there you went to Syracuse 21     University; is that right? 22     A    That's correct. 23     Q    And you, it looks like, worked in both 24     the noble gas isotopic research as a research 25     laboratory manager and as an assistant professor?</p>
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<p>1      Q    How was it? 2      A    Plates reorganize and the subduction 3      zone got reactivated as a normal fault system. 4      And so basically, because South China started 5      moving, relative to today's geographic coordinates 6      started moving south again, it basically pulled 7      that continental margin out of the subduction 8      zone. 9      Q    Okay. Now, when you mentioned going to 10     the Qinling-Dabie Orogen, did you physically visit 11     the site? 12     A    Yes. 13     Q    And what did you do while you were on 14     site? 15     A    We found outcrops where we observed the 16     metamorphic -- again, metamorphic rock types, and 17     really there, in particular, documenting the 18     structures and taking sample -- oriented samples 19     to then bring back and make thin sections, and 20     look at the petrography and also choose select 21     samples for dating. 22     Q    So once you brought those samples back 23     and did the thin sections, you were able to look 24     at the structure of the -- of the rock. Is that 25     fair?</p>	<p>1      A    Yes. 2      Q    Okay. And what was the focus of your 3      work while you were at Syracuse? 4      A    Well, when I first arrived, the lab was 5      an empty room, so I actually helped build and 6      commission the laboratory. And then we turned our 7      attention to different projects. A big focus of 8      my research there was on Papua, New Guinea. 9      Q    And the rocks in Papua -- Papua, New 10     Guinea? 11     A    Yes. 12     Q    I see. What exactly is a noble gas 13     isotopic research? 14     A    So argon, neon, helium, they're all 15     noble gases. They have filled outer electron 16     shells, so they don't bond with other elements. 17     Q    I see. Just like kings, they don't play 18     well with others, right? 19     A    Yeah, they don't need anybody else. 20     Q    And from Syracuse, you went to the 21     University of Vermont; is that right? 22     A    Yes. 23     Q    Okay. And that was in 2009? 24     A    I started here in the fall of 2008. 25     Q    Okay. And you are still at the</p>

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<p>1 University of Vermont; is that right?</p> <p>2 A That's correct.</p> <p>3 Q And are you an associate professor</p> <p>4 today?</p> <p>5 A I am, yes.</p> <p>6 Q Has there been any particular focus to</p> <p>7 your work here at -- in Vermont?</p> <p>8 A Again, general themes of integrating</p> <p>9 metamorphic petrology and structural geology</p> <p>10 and -- and age dating. I've worked in Papua, New</p> <p>11 Guinea, I've worked in Mongolia, and I've been</p> <p>12 working a lot in -- in Vermont.</p> <p>13 Q When did your work in Vermont begin?</p> <p>14 A Pretty much upon my arrival.</p> <p>15 Q Mm-hmm. And what has been your focus</p> <p>16 there? Is there a particular area, geographic or</p> <p>17 otherwise?</p> <p>18 A It varies. I mean, I guess the Chester</p> <p>19 dome area is the farthest south, and then I've</p> <p>20 worked in the Tillotson Peak complex, so that's</p> <p>21 a -- in the northern part. I mean, generally kind</p> <p>22 of in the Green Mountains generally, but also in</p> <p>23 the Lake Champlain basin.</p> <p>24 Q And what have you been trying to do in</p> <p>25 the Green Mountains? Is there an overarching</p>	<p>1 that resulted in vertical thinning and the</p> <p>2 juxtaposition of the rocks at different</p> <p>3 metamorphic grades.</p> <p>4 Q Are there differences between the</p> <p>5 eastern margin and the western margin?</p> <p>6 A We've looked at some over there. Our --</p> <p>7 the -- I mean, this is the beginning of that sort</p> <p>8 of investigation. But the reason I mentioned the</p> <p>9 eastern margin specifically is because there,</p> <p>10 there happen to be roads that cross good exposures</p> <p>11 of rock types where you can do a sampling transect</p> <p>12 from the core through the attenuated mantle unit.</p> <p>13 So it's more about the opportunity -- the sampling</p> <p>14 opportunities there.</p> <p>15 Q Roads have been cut through that?</p> <p>16 A Right. You might -- well, it's not very</p> <p>17 green here now, but -- the -- the foliage poses</p> <p>18 some challenges at times, yeah.</p> <p>19 Q And what have you done on the</p> <p>20 southern -- on the Athens dome region or that</p> <p>21 southern region?</p> <p>22 A Again, just in particular, some very</p> <p>23 good outcrops there that allow for some more</p> <p>24 detailed study.</p> <p>25 Q Have you reached any conclusions or</p>
<p>1 theme to your work there?</p> <p>2 A Well, it -- it depends. Again, there's</p> <p>3 a very complex geologic and tectonic history. You</p> <p>4 know, we have these very beautiful, detailed</p> <p>5 geologic maps, but there's a lot of room for</p> <p>6 refinement in some of the ages of events, and</p> <p>7 particularly looking at the -- the reactivation of</p> <p>8 structures that formed earlier in the history. So</p> <p>9 you might have a fault that's formed during the</p> <p>10 tectonic orogeny that a hundred million years --</p> <p>11 million years later, another continental block</p> <p>12 comes and then slams into North America, and that</p> <p>13 fault moves again.</p> <p>14 But, again, being able to look at the</p> <p>15 microstructure and choose targets for dating to</p> <p>16 resolve those different events.</p> <p>17 Q Now, you mentioned you had worked out at</p> <p>18 the Chester dome. What have you -- what has been</p> <p>19 your experience out there?</p> <p>20 A I have a master's student currently</p> <p>21 working on the -- the eastern margin of the -- the</p> <p>22 dome, and also the southern portions, which</p> <p>23 technically some people call the Athens dome. But</p> <p>24 we're basically trying to refine the timing of the</p> <p>25 formation of that shear zone, the one I described</p>	<p>1 dating?</p> <p>2 A No, this is -- we're in -- in progress</p> <p>3 right now.</p> <p>4 Q I see. And we've used the term "dome" a</p> <p>5 lot. Can you describe for the record what a dome</p> <p>6 is?</p> <p>7 A Yeah. So, again, it relates to folding</p> <p>8 of the rocks. So, you know, there are layers</p> <p>9 of -- of rocks, say, and tectonic forces cause</p> <p>10 folding. And so the Chester dome is -- well,</p> <p>11 again, there's multiple events that have done</p> <p>12 this. There was first sort of intense north-south</p> <p>13 stretching, and then the Acadian orogeny resulted</p> <p>14 in this sort of east-west folding. So that's</p> <p>15 partly how -- why we have this long north-south</p> <p>16 structure. So...</p> <p>17 Q Now, on the second page of your CV,</p> <p>18 there's an area for Technical Expertise.</p> <p>19 A Mm-hmm.</p> <p>20 Q The first entry there refers to</p> <p>21 Nu Noblesse, MAP 216 and Micromass 5400 noble gas</p> <p>22 mass spectrometers for argon 40 and argon 39</p> <p>23 thermochronology.</p> <p>24 And again, are those tests or processes</p> <p>25 to date rock?</p>

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<p>1 A Yes. 2 Q And I take it those are specific tests 3 you would -- and those are the processes you 4 enlisted, right? 5 A I'm sorry? 6 Q Are those specific testing devices or 7 testing processes, rather, that you would use? 8 A Yeah. These are magnetic sector, mass 9 spectrometers, so that's -- yeah, how we're doing 10 the isotopic analyses. 11 Q Okay. Next one is Balzers Prisma 12 QME 200, and that's another mass spectrometer? 13 A Yes, that's a quadrupole mass 14 spectrometer, so -- as opposed to taking up one of 15 these large tables, it's more of a football-shaped 16 item, but that is used, yes, specifically for that 17 uranium-thorium-helium dating technique. 18 Q Okay. Next is design, construction and 19 maintenance of ultra-high vacuum extraction lines. 20 A Yes. 21 Q What does that involve? 22 A That's the front end to my mass 23 spectrometer. So there's actually argon in the 24 air we're breathing right now, and so we have 25 to -- we've built this stainless steel line that</p>	<p>1 Q And what are those used for? 2 A For detailed elemental analyses. So you 3 might want to look at the chemical zoning in 4 minerals. You might want to measure absolute 5 concentrations of different elements, because we 6 can then use that information to do 7 thermobarometry to determine the -- again, the 8 pressures and temperatures of -- of the formation 9 of a mineral that that records. 10 Q Okay. The next one is secondary 11 ionization mass spectrometry. 12 A Yes. 13 Q What does that involve? 14 A So that's a different type of mass 15 spectrometer where you basically ablate a sample 16 with an ion beam. That ion beam basically drills 17 a hole and ionizes material. 18 So this is in situ work. So you might 19 be making a 10 micron spot within a zircon grain, 20 and then -- then those ionized atoms -- or they're 21 ions at that point -- are analyzed, say, for 22 uranium-lead isotopes. 23 So it can be used for, again, 24 radiometric dating or I've also used it for a 25 technique related to the -- titanium concentration</p>
<p style="text-align: center;">Page 103</p> <p>1 is -- inside that envelope, stainless steel 2 envelope, pressures are about 13 orders of 3 magnitude lower than the pressure we're enjoying 4 today, because we have to get all that background 5 argon out of the system in order to be able to 6 measure precisely what comes out of our samples. 7 Q Then you list management of radioactive 8 materials and isotopic inventories. Is that 9 primarily argon? 10 A Yes. In order to get to this argon 40, 11 39, from that potassium-argon technique, we 12 actually have to irradiate our samples with fast 13 neutrons and a reactor. 14 Q I see. Is that done under controlled 15 conditions of -- 16 A Yeah, I mean, I'm not involved with 17 the -- the nuclear reactor. That's a service 18 that's provided to us, yeah. 19 Q Yep. Other analytical experience, you 20 have electron microprobe analyses. What does that 21 involve? 22 A So basically that's a scanning electron 23 microscope that has WDS protectors that are 24 higher -- generally higher precision detectors 25 than the EDS or EDAX.</p>	<p style="text-align: center;">Page 105</p> <p>1 in quartz. Again, a thermometer or barometer-type 2 technique. 3 Q Have you ever used a scanning electron 4 microscope to identify particular minerals? 5 A Yes. 6 Q What type of minerals? 7 A I mean, it depends on what's -- what's 8 on the menu in your rock, but -- well, the 9 amphiboles, garnet, muscovite, biotite. Yeah, I 10 mean -- 11 Q Okay. Next one, laser ablation 12 inductively coupled mass spectrometry. 13 A Yes. 14 Q That's a mouthful. 15 A Yeah. So that one you -- again, it's a 16 mass spectrometer, a magnetic sector mass 17 spectrometer, but in this case the -- the 18 liberation of atoms from the sample is done 19 generally with an excimer laser, so that's in the 20 UV range of the spectrum. So very short 21 wavelength, high energy laser that, again, can 22 drill a spot into -- a 10, 15, 20 micron spot into 23 a mineral grain so you can actually date different 24 zones in minerals. So that -- that's used for 25 uranium-lead dating of zircon, for example.</p>

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<p>1 Q And the last one, just to make sure we 2 get them all, cathodoluminescence imaging? 3 A Yeah. So that's again using a scanning 4 electron microscope, but a cathodoluminescence 5 detector basically -- well, you can see different 6 things. Again, that was part what I used for the 7 titanium and quartz. So if you were looking at 8 quartz with that technique, zones in the mineral 9 that had higher titanium concentrations would show 10 up brighter, for example. So you could identify 11 zoning, and then identify -- use those maps of 12 zones to target where you would drill into either 13 with the ion beam or subsequent analyses.</p> <p>14 THE REPORTER: Subsequent what?</p> <p>15 THE WITNESS: Analyses, yeah.</p> <p>16 BY MR. BURNS:</p> <p>17 Q And the next entry in your CV is 18 consulting experience. And you list from 2007 to 19 present the work you've done for law firms for 20 J&amp;J; is that right?</p> <p>21 A Yes.</p> <p>22 MR. FROST: Objection to form. It's 23 2017.</p> <p>24 MR. BURNS: Yeah, 2000 -- I said '7.</p> <p>25 BY MR. BURNS:</p>	<p>1 are -- are sited, how they're bonded. 2 Q Mm-hmm. And how would you contrast that 3 with a petrologist? 4 A I'm generally looking at rock systems. 5 So rather than -- I mean, I certainly use 6 mineralogy in order to determine what minerals I'm 7 looking at, but then what I'm interested in, after 8 the mineral ID, is understanding the relationships 9 between different minerals. Because you might 10 have different assemblages in a rock that, again, 11 record different parts of that rock's history. 12 So, yeah, using mineralogy and mineral 13 structures, and again, I also get into the 14 structural geology side, but it's -- it's really 15 trying to understand the -- the formation and the 16 evolution of rocks, but what they record in terms 17 of geologic and tectonic processes. 18 Q I hand you what we'll mark as 19 Exhibit 10, Dr. Webb. 20 (Webb Exhibit No. 10 was marked 21 for identification.) 22 MR. FROST: Thank you. 23 BY MR. BURNS: 24 Q Now, is this your bio on the University 25 of Vermont system?</p>
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<p>1 Q 2017 to the present, right?</p> <p>2 A Yes.</p> <p>3 Q Okay. I almost snuck that one past your 4 counsel, but I failed.</p> <p>5 Have you done any other consulting 6 experience for -- in litigation?</p> <p>7 A No.</p> <p>8 Q Okay. Have you done any other 9 consulting experience for industry?</p> <p>10 A No. Not consulting, no.</p> <p>11 Q Okay. Do you consider yourself a 12 mineralogist?</p> <p>13 A I certainly use mineralogy, so, I mean, 14 there's kind of a spectrum of expertise out there. 15 So I would describe myself as a -- as a 16 petrologist rather than a mineralogist, but I 17 certainly do have some expertise in mineralogy.</p> <p>18 Q What's -- what's the difference between 19 those two?</p> <p>20 A Well, most typically, if someone 21 describes themselves as a mineralogist, then -- 22 for example, the faculty member in our department, 23 he is an expert in the structures of apatite 24 crystals, and so is looking to determine, yeah, 25 the mineral structure where different elements</p>	<p>1 A It looks like it, yes. 2 Q Okay. And similar to what we've been 3 discussing, on the back page it lists your areas 4 of expertise and a researcher in tectonics and 5 thermochronology, correct? 6 A Yes. 7 Q All right. And under "Teaching 8 Research," there are a couple of things I wanted 9 to understand a little more fully. 10 First, in the first sentence it says: 11 "I am a field-based geologist." 12 What is a field-based geologist? 13 A Well, in that -- in many cases I'm 14 actually out in the field making structural 15 measurements, collecting oriented samples. That 16 kind of depends on the nature of -- of the 17 question that I'm trying to address, but it means 18 that I have a skill set that allows me to do that 19 as needed. 20 Q And what is that skill set? 21 A Well, the ability to recognize different 22 rock types in the field, the ability to recognize 23 and document structures, to make the appropriate 24 measurements. For example, the orientation of 25 foliations, or we also have lineations. Minerals</p>

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<p>1 can be elongated or pebbles can be stretched, for 2 example. All this relates again to the structural 3 evolution of -- of the rocks. 4 Q All right. Now, in the next paragraph 5 it says you teach courses in geochronology, 6 petrology, microstructural analysis and tectonics. 7 And then, "In the classroom and in 8 practice, my students and I integrate analytical 9 data with observations at microscopic to 10 continental scales to try and understand how rocks 11 and regions evolve in space and time, and the 12 tectonic processes that shape them." 13 Did I read that correctly? 14 A Yes. 15 Q Okay. Now, when you refer to 16 "integrating analytical data with observations," 17 what -- what are you referring to there? 18 A Well, it -- it depends on, again, the -- 19 the specific study at hand, but again, I -- in my 20 work, let's say if I want to date a mineral and 21 we -- the mass spectrometer spews out some 22 information that we calculate an age from, that 23 age is only as good as my ability to interpret 24 what it means. 25 So that means that I have to understand</p>	<p>1 Q No, fair enough. And really I'm just 2 saying that you described a pretty unique, I 3 think, field-based skill set, one that maybe I 4 wish I had. I would love to be able to look at a 5 hillside and -- and take an instant view of the 6 rocks there and how they fit into the structure. 7 But what I was getting at is those 8 field-based skills allow you to put the rock or 9 mineral you're examining into that context, the 10 context that's found in the field; is that right? 11 A Yes. I mean, it's also a skill set that 12 allows me to work with others. So a lot of the 13 analyses done in my lab are people who have 14 brought samples to us, and so in those cases, I'm 15 generating ages for them, but need to be heavily 16 involved in helping them interpret it. 17 So that field-based skill set also 18 allows me to ask them the appropriate questions to 19 get at that interpretation or give them advice in 20 advance about sampling strategies they might want 21 to employ. 22 Q Okay. In your professional career, have 23 you ever conducted any research on -- aside from 24 the litigation context, on talc as a mineral? 25 A Not specifically focused on it, no.</p>
<p style="text-align: center;">Page 111</p> <p>1 the context of the mineral I dated in the rock. I 2 have to understand the context of that rock in an 3 outcrop. I need to understand the context of that 4 outcrop in the -- sort of the map scale. 5 And so we're integrating the -- the 6 isotopic data. We're integrating the observations 7 of the minerals and the mineral assemblages, and 8 their relationship to deformation, coupled with 9 field measurements. 10 Again, it depends on the study what -- 11 what all is at play, but also, you know, 12 integrating this with the existing literature out 13 there, which generally drives the nature of the 14 question. 15 Q Right. And I'm going to assume your 16 field-based skill set assists in that process by 17 allowing you to observe the minerals, rocks in 18 question in the area in which they occur, and 19 juxtaposed against other formations or other rocks 20 or minerals, right? 21 MR. FROST: Objection to form. 22 THE WITNESS: Yeah, in part. But 23 again -- yeah, I'm sorry, I think I lost the 24 thread there. It was a long one. 25 BY MR. BURNS:</p>	<p style="text-align: center;">Page 113</p> <p>1 Q And same question with respect to 2 asbestos. 3 A No. 4 Q Okay. How does a petrologist differ 5 from a geologist? 6 A Well, there are geologists who are 7 entirely focused on the fossil record or they 8 might be really an expert in a certain kind of 9 structural geology. So geology is more broad 10 about, you know, the study of the earth and -- and 11 rocks, whereas petrology, again, is really looking 12 at the mineral assemblages and the mineral 13 textures to get at how did that rock initially 14 form and what are the processes that's altered it 15 since its formation. 16 Q So you're not a professional geologist, 17 I would assume. 18 A How do you define "professional 19 geologist"?</p> <p>Q Or a geologist generally. A Oh, I'm definitely a geologist. Q Okay. So the greater subsumes the lesser or the smaller. A Petrology is a specific -- more specific area of geology.</p>

<p style="text-align: center;">Page 114</p> <p>1 Q Of geology. Okay. Bad question. I 2 appreciate it. 3 A Well, I -- yeah. 4 Q Have you ever published any peer- 5 reviewed articles on asbestosiform amphiboles in 6 talc? 7 A No. 8 Q Have you ever presented on that topic in 9 any capacity? 10 A No. 11 Q Have you ever published any peer- 12 reviewed articles on the methodological approaches 13 for the identification of asbestosiform amphiboles 14 in talc? 15 A No. 16 Q Have you ever presented on that topic? 17 A No. 18 Q Have you ever -- in the context of -- in 19 the journal context, have you ever served as a 20 reviewer? 21 A Yes. 22 Q Okay. Have you ever reviewed any 23 articles or other materials on any issues 24 involving asbestos in talc? 25 A Not asbestos specifically. I mean,</p>	<p style="text-align: center;">Page 116</p> <p>1 example. I'm also aware of the Kerrigan thesis 2 that looked at experiments in which they were 3 seeing if they could grow asbestosiform talc. So, 4 yeah. 5 Q Putting aside the litigation context, 6 have you ever participated in any discussions or 7 fora or conferences involving those topics 8 relating to asbestos in talc? 9 A No, not specific to them, no. 10 Q Have -- have you personally ever 11 identified any asbestosiform amphibole materials in 12 a talc sample? 13 A No. 14 Q Have you ever examined any talc samples 15 for that purpose? 16 A No, not for that purpose, no. 17 Q Have you ever examined any talc samples 18 generally? 19 A Yes. 20 Q For what purpose? 21 A General petrology. I mean, if we're 22 talking about rocks with talc in them, then we've 23 seen some of that in the rocks from China and 24 Papua, New Guinea, I think, but also in the petrology collection for teaching, putting</p>
<p style="text-align: center;">Page 115</p> <p>1 there's been talc in rocks in papers that I've 2 reviewed, but -- 3 Q Okay. Specifically about the talc or -- 4 A No. I mean, you know, again, that's 5 part of an assemblage that's being interpreted in 6 the context of the assemblage, et cetera. 7 Q Have you conducted any work with 8 graduate students on any issues involving asbestos 9 in talc? 10 A No. 11 Q Are you aware of any student thesis or 12 dissertations on any issue involving asbestos in 13 talc? 14 MR. FROST: Objection to form. 15 THE WITNESS: Am I -- 16 BY MR. BURNS: 17 Q Aware. 18 A Aware? 19 Q Mm-hmm, generally. 20 A Yes. 21 Q Okay. And what's your general awareness? 22 A Well, I know -- I mean, some of the papers I've cited have come out are first authored by students who worked with Mickey Gunter, for</p>	<p style="text-align: center;">Page 117</p> <p>1 together labs, et cetera. 2 Q Okay. Do you plan to offer any opinions 3 in this case regarding the appropriate technique 4 for examining cosmetic talc for the presence of 5 asbestos? 6 A No. 7 Q Does your department possess a 8 transmission electron microscope? 9 A The department does not. There's one in 10 the medical school. 11 Q What about -- same question for a 12 scanning electron microscope. 13 A There's one in the -- the medical 14 school, and there's a new one coming this spring. 15 I'm a co-PI on an NSF grant that was funded to allow UVM to purchase an SE/SEM instrument. 16 Q You said co-PI. What is a PI? 17 A Co-principal investigator. So there was 18 a lead PI out of the physics department, and then 19 I'm one of, say, five PIs on the grant. 20 Q I see. Have you ever been involved in research or work designed to investigate the presence of asbestos materials in any geologic formation? 21 A Not specifically for that purpose, no.</p>

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<p>1 MR. BURNS: I think we're at a lunch 2 stopping point. 3 MR. FROST: Yeah, 12:45, sounds about 4 right. 5 MR. BURNS: All right. Great. 6 THE VIDEOGRAPHER: Going off the record 7 at 12:41. 8 (Lunch recess.) 9 THE VIDEOGRAPHER: We're back on the 10 record at 2:00 p.m. 11 BY MR. BURNS: 12 Q Good afternoon, Dr. Webb. 13 Dr. Webb, we are painfully close to 14 checking off the qualifications box on this -- 15 this little sketch I made. 16 Just one general question that I was 17 hoping you could describe for us. When you go out 18 into the field to collect samples, what process do 19 you generally do when you go out there? What are 20 you looking for? Can you describe that generally? 21 A Yeah, I mean, it depends on what's known 22 and documented for the region already. So that -- 23 you usually build off of the existing knowledge 24 base. But -- so usually we're looking for fresh 25 outcrops with 3D exposure so that you can actually</p>	<p>1 in the lab and, say, make -- cut the rock relative 2 to a specific orientations. 3 Q And by orientations, are you referring 4 to sort of how it was oriented in the ground 5 before you took it so that you know where north, 6 south, you know, up, down is? 7 A Uh, yeah, it depends. I mean, you know, 8 so if -- if this is a rock and these pages are a 9 planar fabric in the rock, the foliation will 10 often cut perpendicular to the foliation so that 11 you see the -- 12 Q The layers. 13 A -- the layering rather than just looking 14 at one plane in the rock. If there is a 15 lineation, that usually relates to the 16 deformations, so the transport direction of one 17 piece of rock relative to a lower piece. And 18 often we'll -- if that's present, we'll cut 19 perpend- -- sorry, parallel to that, because 20 that's how we would observe the rotation of 21 minerals that might tell us the way the fault was 22 moving. Or -- 23 Q Okay. Thank you. 24 Now, you mentioned you would look for 25 fresh outcrops or 3D exposure. What do -- what do</p>
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<p>1 see something, rather than just a moss-covered 2 rock surface, for example. 3 Again, to make observations about the -- 4 the rock types, any observations that can made -- 5 be made about the mineralogy in detail, but it 6 depends on the size of the minerals in -- in the 7 rocks. Again, looking to make observations and 8 document structural orientations, again about the 9 planar or linear elements that might be present in 10 a rock as a function of its deformation history. 11 So, I mean, those are -- are generally 12 the -- the sort of categories of -- of 13 observations, yeah. 14 Q Now, when you take the specimen, how do 15 you physically do that? Are you chipping off a 16 specimen? Are you picking it up off the ground? 17 I guess it really depends. 18 A I don't usually rely on things that are 19 on the ground, because you can't. I've left 20 plenty of rocks places where they didn't originate 21 from. 22 So -- so usually it's a hammer and 23 chisel, and most often I'm working with oriented 24 samples. So we would measure a feature and mark 25 it in the field, and that way we can reorient it</p>	<p>1 you mean by 3D exposure? 2 A Well, again, it's this idea that in 3 order to make these -- what we would call 4 kinematic observations relate -- how things are 5 rotating, you need a rock exposure that allows you 6 to look at an exposure that's perpendicular to the 7 foliation and parallel to the lineation. 8 In other words, you could -- if 9 something was rolling like that (demonstrative), 10 you could -- 11 Q Yeah. 12 A -- you could see that as opposed to it 13 coming down the barrel at you. So that 3D aspect 14 is important for getting those certain 15 perspectives at times. 16 Q What type of sites do you look at or 17 look for to find that, you know, fresh outcrops or 18 3D exposure? You had mentioned a road before. 19 A Yeah, so road cuts are -- are often our 20 best window into the rocks, or perhaps in rivers. 21 You know, yeah, I've certainly been in quarries 22 before, et cetera, but -- 23 Q Mines? 24 A If they're aboveground, I mean, yeah. 25 I've never been in an underground mine.</p>

<p style="text-align: center;">Page 122</p> <p>1 Q Okay. Now, once you take the actual 2 sample, I assume that you are taking it back to 3 the lab to perform certain tests or examinations 4 upon it. Right?</p> <p>5 A Yes. Usually we take it back to the -- 6 to the department, and there is a rock-cutting 7 facility, so we'll cut those oriented chips out of 8 the rock to send away to have thin sections made, 9 petrographic thin sections.</p> <p>10 Q And then what do you do with the 11 petrographic thin sections?</p> <p>12 A I look at them under a petrographic 13 microscope, polarized light microscope, to make 14 mineral identification, to observe the textural 15 relationships between minerals. That, again, 16 might relate to relative ages or metamorphic 17 reactions that might be frozen or captured in a 18 sample, and also the microstructural observations 19 about, say, shear sense. As I said, the vorticity 20 or the rotation of -- of minerals that might tell 21 us about the type of faulting or deformation that 22 was occurring. And then in the case of the 23 geochronology, selecting appropriate rocks to 24 target for dating.</p> <p>25 Q And that's really been the focus of your</p>	<p style="text-align: center;">Page 124</p> <p>1 And that will take us to the efforts you 2 made in preparing to give your opinions in this 3 case. And I'm going to get to those specific 4 opinions a little bit later, hopefully not too 5 much later, recognizing it is the afternoon.</p> <p>6 What was your charge in this case? What 7 were you asked to do?</p> <p>8 A I was asked to study and -- and provide 9 an explanation of the petrological processes that 10 are associated with the high purity talc deposits. 11 So, again, you know, these pressure, temperature, 12 bulk composition type questions.</p> <p>13 Of course, a specific question I was 14 asked to address is what is the relationship or 15 not of -- of asbestos to -- to the talc deposits 16 at issue. Yeah.</p> <p>17 Oh, as well, and part of that charge, of 18 course, was to read and respond to the -- the 19 reports of Drs. Cook and Krekeler. And also if 20 there was information that I had or was able to 21 synthesize on -- on, again, sort of at the mineral 22 structure scale. The differences, for example, in 23 the chemical resistance or the -- of, say, 24 asbestosiform amphiboles versus non-asbestosiform 25 amphiboles.</p>
<p style="text-align: center;">Page 123</p> <p>1 particular research is ultimately getting to that 2 last point, the dating of those rocks, right?</p> <p>3 A Not exclusively, no.</p> <p>4 Q How not exclusively?</p> <p>5 A Because I've had some projects where 6 there's been no geochronology, and it's been more 7 about the petrology, again understanding the 8 temperature and pressure conditions. So, again, 9 it just depends on what's known already and what 10 the new questions are.</p> <p>11 Q I see. And I take it during those steps 12 of the micro-- pardon me.</p> <p>13 During those steps in the lab, you are 14 carefully recording each of these observations; is 15 that right?</p> <p>16 A Yeah. I mean, again, it depends on what 17 the -- the nature of the project is. But, yes, we 18 make a record of the -- the mineralogy, the 19 structures, et cetera, yeah.</p> <p>20 Q How do you make a record of where the 21 rock was sourced?</p> <p>22 A Generally, we take GPS coordinates 23 associated with the sampling locations.</p> <p>24 Q Well, I think we can safely cross 25 qualifications off our list.</p>	<p style="text-align: center;">Page 125</p> <p>1 Q Mm-hmm. Can you describe in general 2 terms the methodology you employed in reaching and 3 rendering your opinions in this case?</p> <p>4 A Yeah. So, I mean, I -- I really used 5 the same approach that I would approach any aspect 6 of my science, whether it's writing a paper or a 7 peer review. But, again, to try and do an 8 extensive search of the peer-reviewed literature, 9 and also -- I mean, in that search I found also 10 USGS reports, as we've discussed earlier today. 11 And really to look in -- in detail, and, again, I 12 mentioned that I tried to really dig into the 13 primary citations, who were the first people to 14 look at these rocks, what did -- you know, what 15 did they see, and try and confirm things that 16 had -- were then included in -- in later summary 17 type papers that I also saw.</p> <p>18 But, again, what I'm really concerned is 19 as a petrologist is the system of rocks, and so, 20 you know, not only was my interest related to 21 anything written about the talc bodies themselves 22 but also the surrounding rocks. Because in order 23 to understand the history that the -- the talc 24 ores experienced, you have to dig into rocks 25 around them of different bulk compositions.</p>

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<p>1 Different rocks have the potential to record 2 different aspects, in part because they might have 3 a different strength or they might have minerals 4 that are more stable over a broader range of 5 pressure and temperature conditions. 6 So this was all part and parcel in terms 7 of trying to understand, as I was describing, 8 the -- the structure of -- of the dome in the case 9 of Vermont, you know, how differences between the 10 core and those mantling units where the -- the 11 talc mines are -- are located, the details of the 12 pressure, temperature, deformation histories. 13 So, again, I wasn't only just looking at 14 the talc ores, I was also looking at the reports 15 of asbestos in Vermont and really trying to 16 understand the petrology of those systems. Again, 17 relative timing, pressure, temperature, conditions 18 of formations, differences maybe that in fluid 19 chemistry that might impact how metamorphic 20 processes play out. 21 So, again, my synthesis was a range of 22 scales from sort of, you know, all of Vermont and 23 its cumulative tectonic history to, you know, 24 reading works that described observations made in 25 petrologic thin sections, you know, again, down at</p>	<p>1 before me. 2 So if there -- if I feel like there is a 3 big gap in that information, that would drive that 4 need to go out into the field to collect samples, 5 and I just didn't arrive at that position in this 6 case. 7 BY MR. BURNS: 8 Well, let me -- let me focus on the 9 Argonaut mine for a moment. Are you aware of any 10 peer-reviewed work or any other reports relating 11 to samples taken in the Argonaut mine relative to 12 talc and asbestos? 13 A The Argonaut mine. Well, other than, I 14 think it's, the Buzon thesis where there were some 15 samples that were analyzed by, I think it's, 16 Marian Buzon during her Ph.D., I haven't seen 17 anything in -- in the published literature about 18 the samples from that mine except for her work, I 19 believe. 20 Q So, for example, you spoke about gaps in 21 the record. Why is that not a gap in the record 22 you would be interested in? 23 A Well, again -- 24 MR. FROST: Objection to form. 25 THE WITNESS: Again, I mean, basically</p>
<p>1 the micron scale. 2 Q Okay. Well, one of the things that 3 surprise me a bit in reading your report, just to 4 be frank, is that the methodology you just -- just 5 described and employed in this case differs from 6 some of the science you have conducted before as a 7 field-based geologist in that you did not 8 apparently go out to, for instance, the Vermont 9 sites and take samples, and bring those samples 10 back to your -- to your laboratory to determine 11 whether asbestos may be contained in the 12 underlying rock, what that relationship might be 13 to the talc. 14 Is that a fair description of what you 15 did in this case? 16 MR. FROST: Objection to form. 17 THE WITNESS: I mean, I think the 18 description of what I did is what I just outlined 19 in the prior question. I mean, it's true I did 20 not sample the -- the talc -- rocks from the talc 21 mines, but again, I mean, as I've been describing, 22 when I go out into the field, those objectives 23 are -- are really driven by what I understand from 24 the -- in this -- like in the case of Vermont, the 25 decades of work of geologists and petrologists</p>	<p>1 the Vermont talc mines that we're interested in 2 are in a pretty specific zone around mantling that 3 Chester dome, and so bracketing that history 4 are -- is work done -- I mean, really the most 5 detailed study out there is that Sanford 1982 6 paper, and Sanford sampled from, I think, three 7 different locations in Vermont and also in 8 Massachusetts. But in his study, he had samples 9 from the Newfane mine and the Grafton mine, which 10 basically bracket in PT space the -- the Argonaut, 11 Hamm and Hammondsville mines, and so I was able to 12 look at pretty gory detail in his -- in his paper. 13 I was able also to compare that with 14 the -- the Pooley study, who sampled different 15 rock types around the mine, which, again, was of 16 interest to me because I like to work with rock 17 systems. And he had detailed petrographic data 18 and descriptions in there, again photomicrographs, 19 the kind of -- the kind of data that I regularly 20 work with. 21 And basically -- and also there was the 22 Robinson -- or, sorry, the Robinson study from the 23 Frostbite mine. And so, I mean, I feel like these 24 rock bodies are -- are pretty tightly bracketed by 25 these studies, and -- and I felt like I saw the</p>

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<p>1 information I needed in those works. 2 BY MR. BURNS: 3 Q So we're sitting here today in 4 Burlington, Vermont. How far approximately is the 5 Argonaut mine from here? 6 A Oh, I guess two-and-a-half hours or so. 7 Q Driving by car? 8 A Yeah, driving. 9 Q Okay. And you realize that the -- the 10 allegations in this case center in part on the 11 plaintiffs' allegations that asbestos was a 12 constituent mineral in the rocks that were mined 13 at the Argonaut mine. Is that correct? 14 MR. FROST: Objection to form. 15 THE WITNESS: I'm sorry, can you repeat the -- 16 BY MR. BURNS: 17 Q Sure. Just asking you, you realize that 18 the allegations in this case center in part on 19 claims that asbestos was a constituent of the 20 material that was mined at Argonaut. 21 A Yeah. 22 Q Okay. Did you ever ask to go to the 23 Argonaut mine? 24 A No. 25</p>	<p>1 understanding, although you should correct me if I 2 don't, about this methodology you just described. 3 But I want to make sure that we capture and 4 exclude some -- some areas that I don't think fit 5 into it. 6 MR. BURNS: Oh, did I -- yeah, those are 7 two pages. Here. 8 BY MR. BURNS: 9 Q So I'm just going to ask you some 10 questions, and I will -- I'll mark this so I can 11 remember the answers. 12 So, Dr. Webb, have you ever worked in a 13 talc mine? 14 A No. 15 Q Have you ever designed any talc mine 16 operations? 17 A No. 18 Q Have you ever consulted on any talc mine 19 operations? 20 A No. 21 Q Have you ever designed any drill core 22 sampling protocols for talc mines? 23 A No. 24 Q Have you ever designed a blast hole 25 sampling protocol for a talc mine?</p>
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<p>1 Q Were you ever told that you couldn't go 2 to the Argonaut mine? 3 A No. 4 Q And is that true of the other two J&amp;J 5 mines in Vermont? 6 MR. FROST: Objection to form. 7 THE WITNESS: Yeah, I mean Hammondsville 8 is -- is underwater. It's a pond. So -- and I'm 9 not sure about the Hamm. I think, you know, 10 underground mining wouldn't -- or shafts wouldn't 11 be able. 12 But, yeah, no, I didn't ask to go. I 13 wasn't told that I should go or couldn't go. I 14 was left to use my professional opinion about how 15 that played out. 16 BY MR. BURNS: 17 Q I'm going to put up on the screen what 18 I've marked as Plaintiffs' Demonstrative No. 2. I 19 will give you and your counsel a copy of it, 20 though, just so you can follow along. 21 (Webb Exhibit No. 18 was 22 subsequently marked for 23 identification.) 24 BY MR. BURNS: 25 Q I think I have a pretty good</p>	<p>1 A No. 2 Q Have you ever designed an open pit 3 mining operation? 4 A No. 5 Q Ever designed an underground mining 6 operation? 7 A No. 8 Q Have you ever supervised or consulted on 9 the ongoing operation of a mine? 10 A No. 11 Q And I think I -- I think you've answered 12 this, but have you ever visited any of the J&amp;J 13 talc mines in Vermont? 14 A No. 15 Q Is that also true of China and Italy? 16 A That's correct. 17 Q Have you ever conducted any field 18 observations at any talc mines? 19 A No. 20 Q Have you ever conducted any field 21 observations at any of the J&amp;J talc mines? 22 A No. 23 Q Have you ever inspected any talc mines? 24 A No. 25 Q Or any J&amp;J talc mines?</p>

Laura Webb, Ph.D.

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<p>1 A No.</p> <p>2 Q Have you ever reviewed any petrographic maps from J&amp;J talc mines?</p> <p>3 A What do you mean by "petrographic maps"?</p> <p>4 Q Well, similar to some of the maps that you included in your report but specific to in Vermont, Italy or Chinese mines?</p> <p>5 A I mean, do you mean geologic maps? Because "petrographic" generally means observations made through a petrographic microscope. So petrographic maps to me would mean a map of a thin section.</p> <p>6 Q I see. So that doesn't make a whole hell of a lot of sense.</p> <p>7 A No.</p> <p>8 Q All right. Fair enough. Well, I tell you what, we will scratch that one.</p> <p>9 Have you ever reviewed any geologic map -- maps from a talc mine?</p> <p>10 A Yes.</p> <p>11 Q And what mine was that?</p> <p>12 A There was -- in the Robinson, et al., 2006, report from the Frostbite mine.</p> <p>13 Q Mm-hmm. Okay. How about any geologic maps from J&amp;J talc mines?</p>	<p>1 Q Same question with respect to J&amp;J talc mines.</p> <p>2 A Yes, that's --</p> <p>3 Q Same answer?</p> <p>4 A Yeah, yeah.</p> <p>5 Q Have you ever inspected any core logs from a talc mine?</p> <p>6 A No.</p> <p>7 Q Ever inspected any core logs from the J&amp;J talc mines?</p> <p>8 A No.</p> <p>9 Q Ever asked for any samples of J&amp;J talc from the --</p> <p>10 A No.</p> <p>11 Q -- products in question?</p> <p>12 A No.</p> <p>13 Q I'm sorry. And that answer was "no"?</p> <p>14 A Yes. Never asked for.</p> <p>15 Q Okay. Have you ever taken any samples or rock specimens from a talc mine?</p> <p>16 A No.</p> <p>17 Q Or from the J&amp;J mines in question?</p> <p>18 A No.</p> <p>19 Q Have you ever conducted any XRD on any J&amp;J talc?</p>
<p>1 A No.</p> <p>2 Q Did you ask whether any were available?</p> <p>3 A I didn't ask, no.</p> <p>4 Q Okay. Ever review any mine planning maps from a talc mine?</p> <p>5 A No.</p> <p>6 Q Have you ever reviewed drill cores taken from a talc mine?</p> <p>7 A No.</p> <p>8 Q Have you ever seen the drill cores taken from any of the J&amp;J mines at issue here?</p> <p>9 A No.</p> <p>10 Q Have you ever reviewed any mine planning maps from the J&amp;J talc mines?</p> <p>11 A No.</p> <p>12 Q Ever analyzed any thin sections from cores removed from a talc mine?</p> <p>13 A No.</p> <p>14 Q Same question with respect to J&amp;J talc mines.</p> <p>15 A Yeah, no.</p> <p>16 Q Have you ever seen the results of any analysis of thin sections from cores removed from a talc mine?</p> <p>17 A From cores, no.</p>	<p>1 A No.</p> <p>2 Q What about PLM? We just talked about PLM a few minutes ago. Have you ever done that on any J&amp;J talc?</p> <p>3 A No, personally I have not conducted those studies.</p> <p>4 Q Are you aware of any outside this litigation?</p> <p>5 A Sorry, then we're on -- specifically on J&amp;J talc?</p> <p>6 Q Yes.</p> <p>7 A And this is the bodies that are being mined for the cosmetic talc?</p> <p>8 Q Yes.</p> <p>9 A No.</p> <p>10 Q Have you ever conducted any scanning electron microscopy on any talc?</p> <p>11 A I've seen it, yeah.</p> <p>12 Q Seen it, but have you conducted it yourself?</p> <p>13 A Well, yes. I mean, again, not on the talc ores that we're -- we're discussing, but I've seen talc in rocks on the SEM while I've been --</p> <p>14 Q So in other rocks.</p> <p>15 A Yes.</p>

<p style="text-align: center;">Page 138</p> <p>1 Q But not with respect to any J&amp;J talc. 2 A No. 3 Q Have you ever conducted any transmission 4 electron microscopy on any talc samples? 5 A No. 6 Q And that would be true of J&amp;J talc 7 samples? 8 A That's correct. 9 Q Have you ever seen test results from 10 samples taken from the J&amp;J talc mines? 11 A Test -- what kind of test results? 12 Q Test results with respect to asbestos or 13 other contaminants. 14 A No. 15 Q Have you ever designed or supervised a 16 beneficiation process for talc ore? 17 A No. 18 Q Have you ever published on talc deposits 19 used to source J&amp;J talc in Italy, Vermont or 20 China? 21 A No. 22 Q And I think you answered this earlier, 23 you've never published on asbestosiform amphiboles 24 in talc, have you? 25 A No.</p>	<p style="text-align: center;">Page 140</p> <p>1 phone, I think. 2 Q Okay. And what was that about? 3 A I was curious where I could access some 4 of her data on some of the -- the studies she's 5 compiled or done, so the WebLink distributions, 6 et cetera. 7 Q Anything else in that conversation? 8 A No. 9 Q And was that the only conversation 10 you've had with her? 11 A That's the only time I've spoken with 12 Ann Wylie. 13 Q And was that in the context of 14 discussions about asbestos, the conversation you 15 had with her? 16 A Yeah, so the -- I was looking for the -- 17 the data from both known -- you know, like the -- 18 the standards -- known asbestos versus known 19 cleavage fragments. 20 Q Did Dr. Wylie inform you that she was 21 serving as an expert witness in this litigation? 22 MR. FROST: Objection to form. 23 THE WITNESS: It was prior to this, so 24 neither of us knew. 25 BY MR. BURNS:</p>
<p style="text-align: center;">Page 139</p> <p>1 Q And is that also true of asbestosiform 2 serpientes? 3 A No -- I mean, you're correct, and the 4 answer is no. 5 Q Have you ever published on 6 methodological approaches to differentiate 7 asbestosiform amphiboles and non-amphibole minerals 8 in talc? 9 A No. 10 Q And have you ever personally identified 11 any asbestosiform amphiboles in talc? 12 A No. 13 Q All right. Thank you, Doctor. 14 (Counsel conferring.) 15 BY MR. BURNS: 16 Q Now, recalling our discussion on your 17 supplemental list earlier today, I noted that you 18 had read the deposition and expert report of Ann 19 Wylie. 20 Have you ever discussed this case or 21 your findings with Dr. Wylie? 22 A No. 23 Q Have you ever spoken to Dr. Wylie 24 before? 25 A Last summer, once I spoke to her on the</p>	<p style="text-align: center;">Page 141</p> <p>1 Q And you haven't spoken to her since your 2 reports came out? 3 A No. 4 Q All right. I also noticed you had read 5 the deposition and expert report of Mary Poulton, 6 Dr. Mary Poulton. 7 A Yes. 8 Q Have you ever spoken to Dr. Poulton 9 about asbestos in talc? 10 A No. 11 Q Any conversations with her whatsoever? 12 A I've never met her or talked to her, 13 yeah. 14 Q And you also reviewed the expert report 15 of Dr. Darby Dyar; is that right? 16 A That's correct, yeah. 17 Q And have you spoken with Dr. Dyar? 18 A I met her in October of 2018, I believe, 19 because she was invited to come give a seminar in 20 our department. 21 Q What was the seminar of? 22 A It was related to her work on Mars, that 23 program. 24 Q Did you discuss anything with respect to asbestos or talc?</p>

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<p>1       A Not in great detail. I mean, I -- I 2 took her to lunch, and we were having a 3 conversation about the general paths of our -- our 4 careers, and so we understood that we were both 5 working with J&amp;J lawyers. But, again, that was 6 prior to this case, and we didn't go into any 7 details.</p> <p>8       Q Any specific conversation about asbestos 9 and the talc in J&amp;J mines?</p> <p>10      A No.</p> <p>11      Q And going back to your conversation with 12 Dr. Wylie, why were you interested in the data you 13 were asking her about?</p> <p>14      A Because -- well -- yeah, so I was just 15 doing general consulting, meaning I was doing some 16 research to bolster my understanding of the topic, 17 and, you know, occasionally I was asked to respond 18 to a document or a paper. And so I had seen some 19 of Dr. Longo's reports, and so there was an 20 analysis that -- in one of his reports that 21 related to the size distributions of -- of 22 structures he was measuring with -- with the TEM. 23 And so I was curious about that topic and wanted 24 to explore it further on my own.</p> <p>25      Q And who provided you those reports?</p>	<p>1       again, looking at a data -- a large dataset, what 2 were the --</p> <p>3       Q Okay. And did you reach any 4 conclusions?</p> <p>5       MR. FROST: I was going to say --</p> <p>6       THE WITNESS: Yeah, this is --</p> <p>7       MR. FROST: -- I'm going to caution you 8 to the extent that -- we're now reaching into 9 consultancy, which has nothing to do with her work 10 here.</p> <p>11      I'm just going to caution her, you know, 12 obviously any communications you've had with 13 lawyers during the consultancy and any work 14 product that you created during the consultancy, 15 I'm going to instruct you not to answer on that. 16 But if it's something that you drew yourself, you 17 know, sort of separately from what you were 18 working with the lawyers on, you know, that you 19 can answer.</p> <p>20      THE WITNESS: Pardon me. I have an 21 eyelash attacking my eyeball.</p> <p>22      BY MR. BURNS:</p> <p>23      Q That's okay. Do you need to take a 24 break or --</p> <p>25      A I'll be fine.</p>
<p>1       A Those would have come from Jonathan 2 Cooper.</p> <p>3       Q And who's Mr. Cooper?</p> <p>4       A He's with Tucker &amp; Ellis.</p> <p>5       Q So after receiving that data, what did 6 you do?</p> <p>7       A I -- I basically -- I mean, with Ann's 8 data or ultimately with the online datasets that 9 they've published, I was able to bring that into 10 Excel, and so I was exploring different methods of 11 plotting the data, aspect ratio versus width or 12 width versus lengths or, you know, the variety of 13 ways, log, normal, just -- not -- excuse me. 14 Pardon me. So, yes, it was sort of an exploration 15 in plotting methods to see what seemed to be most 16 meaningful.</p> <p>17      Q And what do you mean by "most 18 meaningful"?</p> <p>19      A Well, I mean, in particular, looking at 20 Ann's data, cleavage fragments versus known 21 documented asbestos, seeing if there was a 22 plotting method where you could see a clear 23 distinction in populations.</p> <p>24      Q I see.</p> <p>25      A I mean, not in a single particle, but,</p>	<p>1       Yeah, I -- honestly, I haven't reviewed 2 that in preparation for this. It's not part of 3 the opinions I'm -- or I offered in my report. So 4 I'd rather not comment on that without having 5 refreshed my memory of those graphs.</p> <p>6       MS. O'DELL: If the data has been 7 provided to Dr. Webb, we would request on the 8 record that the data from Dr. Wylie be provided to 9 us. I will formalize that request after the 10 deposition, but I think we're entitled to it if 11 she has reviewed it.</p> <p>12      MR. FROST: Again, I think she just said 13 she didn't consider it as any part of this 14 opinion, so I actually -- I will lodge an 15 objection to that. And moreover, I think she 16 testified that she had a link to online data 17 sources that she looked at.</p> <p>18      So to the extent that you are 19 insinuating she was provided data by Ann Wylie, I 20 think that is other than what the record reflects 21 here.</p> <p>22      MS. O'DELL: I think the record is quite 23 clear, and regardless of that, it was not 24 disclosed --</p> <p>25      MR. FROST: And --</p>

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<p>1 MS. O'DELL: And if it's available 2 publicly, that's one thing, but we have to know 3 that she's been provided that data. And so we 4 would request that it be --</p> <p>5 MR. FROST: And I guess I'm just failing 6 to understand why we would have to produce you 7 data that has obviously nothing to do with this 8 engagement. You can send a letter, but, you know, 9 obviously we object to it.</p> <p>10 MS. O'DELL: We will let the court 11 decide about that.</p> <p>12 MR. FROST: That's fine. 13 But again, I think she's made it very 14 clear this has absolutely nothing to do with what 15 she's been engaged to do.</p> <p>16 MS. O'DELL: Please don't coach the 17 witness.</p> <p>18 MR. FROST: Please don't what? 19 THE REPORTER: I couldn't hear you. 20 MS. O'DELL: Please don't coach the 21 witness. 22 MR. FROST: I'm not coaching at all. 23 I'm responding to your statement on the record. 24 BY MR. BURNS: 25 Q What was -- what was the form of the</p>	<p>1 A I'm familiar with the name, but I've 2 never met or talked or communicated with her. 3 Q You mentioned Mickey Gunter earlier? 4 A Yes. 5 Q Is that right? 6 What is your relationship with Mickey 7 Gunter? 8 A Well, shortly after I came to UVM, he 9 had a -- a Marsh Fellowship, I think is what they 10 call it, but it's basically an honorary visiting 11 professorship. So he's -- it might have been 12 2009, around that time, that he was in our 13 department maybe for a couple of weeks at a time 14 throughout the -- the year. So that's when I met 15 him. 16 Q I see. And have you continued a 17 friendship or professional relationship with him 18 since? 19 A I haven't talked to him since that March 20 Fellowship, so not in eight years or something 21 like that or -- yeah. 22 Q Have you communicated with him by e-mail 23 or any other means? 24 A No. 25 Q No. Dr. Webb, I think we can mark off</p>
<p style="text-align: center;">Page 147</p> <p>1 Longo reports that you had at the time? 2 MR. FROST: Objection to form. 3 THE WITNESS: The form of the Longo -- I 4 mean, they were PDF documents that kind of 5 mimicked the format of -- of this. So... 6 BY MR. BURNS: 7 Q And this was the summer of 2018? 8 A I would have to -- that's a -- I mean, 9 my best guess for the general time frame, but I 10 don't remember details. 11 Q And do you recall whether they were 12 taken from litigation or -- 13 A Oh, they were -- yeah. I mean, they 14 were expert reports, so... 15 Q Okay. Do you know Dr. Brooke Mossman? 16 A I've met her once, yeah, or twice now. 17 I ran into her in the parking lot. So... 18 Q Have you had any conversations with her 19 about this case? 20 A No. 21 Q Have you had any conversations with her 22 about asbestos in talc? 23 A No, not specifically. 24 Q Do you know a Dr. Shukla, I think in her 25 department?</p>	<p style="text-align: center;">Page 149</p> <p>1 preparation. 2 A Very good. 3 Q One left. 4 MR. BURNS: Should we take a short 5 break? 6 THE WITNESS: Yeah. Fill my water 7 glass. 8 THE VIDEOGRAPHER: Going off the record 9 at 2:42 p.m. 10 (Recess.) 11 THE VIDEOGRAPHER: We're back on the 12 record at 3:10 p.m. 13 BY MR. BURNS: 14 Q Welcome back, Dr. Webb. 15 Dr. Webb, were you aware that -- that 16 Dr. Mickey Gunter serves as an expert witness for 17 J&amp;J? 18 A I am aware of that, yes. 19 Q How did you become aware of it? 20 A I mean, I knew in general of his 21 involvement as an expert witness from when he 22 visited UVM long ago, but -- I suppose like the 23 details of his working for J&amp;J came out sometime 24 during the consulting. I mean, seeing documents, 25 et cetera.</p>

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<p>1 Q All right. Dr. Webb, at long last we've 2 made it to the report section. 3 MR. BURNS: Are you okay? 4 MR. FROST: Yeah. I just kicked the 5 table pretty hard. 6 MR. BURNS: That's no fun. 7 BY MR. BURNS: 8 Q So I'd like to direct you to, I believe, 9 Exhibit 1. And is this a true and correct copy of 10 your expert report? 11 A It appears so, yes. 12 Q All right. And did you prepare this 13 report yourself? 14 A I did, yes. 15 Q Did you write every word of it? 16 A I did, yes. 17 Q Now, one of the terms that appears 18 throughout your report -- and we'll get to the 19 certain instances of it, but we've also -- I've 20 also heard you mention it today -- is you've 21 emphasized, I believe you call it, high purity 22 talc or cosmetic grade talc deposits. 23 A (The witness nods.) 24 Q Can you explain what you mean when 25 you're using that term?</p>	<p>1 Italy and China. 2 Q Mm-hmm. Would it be fair to say then 3 that that high purity grade of talc deposit is one 4 that is, for lack of a better term, pure enough to 5 attract the interest of industrial or cosmetic 6 purposes? 7 MR. FROST: Objection to form. 8 THE WITNESS: Yeah, I mean, they 9 wouldn't be interested in something that wasn't 10 rich in talc and, yeah, relatively high purity. 11 BY MR. BURNS: 12 Q So let's say you had a deposit where for 13 every pound of talc you extracted, there was 14 another pound of waste. Would that fall into that 15 category for you? 16 MR. FROST: Objection to form. 17 THE WITNESS: Yeah, I don't know. I 18 mean, that kind of gets beyond my area of -- of 19 expertise and distinction, I think. Because, 20 yeah, I'm not an expert in the mining process, 21 and -- 22 That eyelash came back. Sorry. 23 BY MR. BURNS: 24 Q Sure. Oh, no. 25 I guess another way to look at it -- and</p>
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<p>1 A Well, I -- I guess I'm making the 2 distinction between a rock that has talc in it or 3 a rock that may have abundant talc in it versus 4 something that is talc rich enough that it would 5 be of interest for the mining companies. 6 Q And is that really the trigger whether 7 it's -- whether industrial use -- it's capable of 8 industrial use or extraction? 9 MR. FROST: Objection to form. 10 BY MR. BURNS: 11 Q I don't want to put words in your mouth. 12 A Yeah. 13 Q I'm just really trying to tease out what 14 you mean by that. 15 A Well, I mean, I think there are 16 definitions for "cosmetic grade talc," and I know 17 that it reflects -- maybe after a beneficiation, 18 the purity levels that are -- you're able to 19 attain coupled with some other geochemical 20 requirements and in the absence of asbestos. 21 But I think, you know, one of the 22 distinctions I'm trying to make is a rock that has 23 talc in it versus something that has undergone 24 such extreme degrees of metasomatism that we 25 arrive at the deposits that we have in Vermont and</p>	<p>1 really, again, I'm just trying to understand -- 2 but for this purpose, the only mines you were 3 looking at were in your view high purity deposits 4 because they were used as mines for the talc 5 industry. Is that fair? 6 MR. FROST: Objection to form. 7 THE WITNESS: Well, I mean, they're -- 8 so obviously it boils down to my opinion about the 9 mines that were used for the talc that was used in 10 talcum powders, and -- but I was actually looking 11 at a larger body of literature to kind of 12 understand the systems and -- and sort of bracket 13 again these conditions where these rocks formed. 14 BY MR. BURNS: 15 Q Just to be sure that I don't miss it 16 if there is a distinction, the J&amp;J talc mines -- 17 what we've been referring to as the J&amp;J talc mines 18 are all in view -- in your view, high purity 19 deposits; is that right? 20 A Well, yes. Deposits from which cosmetic 21 grade talc can be derived. 22 Q Okay. And so we've talked about those 23 three mines in Vermont. We've also mentioned some 24 other mines around there, the Johnson mine, 25 Rainbow mine. Would you consider those high</p>

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<p>1 purity talc deposits as well?</p> <p>2 MR. FROST: Objection to form.</p> <p>3 THE WITNESS: Yeah. I mean, there may</p> <p>4 be zones of -- you know, so even the Newfane mine</p> <p>5 has high purity talc zone in it, but the Newfane</p> <p>6 mine, that zone is so thin, I think it wasn't</p> <p>7 economically viable. So it could include mines</p> <p>8 from which there is no active or was no active</p> <p>9 mining based on the economic viability of it.</p> <p>10 BY MR. BURNS:</p> <p>11 Q Okay. So I would like you to turn to</p> <p>12 page 1 of your report, which contains the</p> <p>13 executive summary.</p> <p>14 A Okay.</p> <p>15 Q So as its title indicates, I take it</p> <p>16 this section summarizes your opinions that you are</p> <p>17 prepared to testify to in this litigation.</p> <p>18 A Yes. An overview of them, yes.</p> <p>19 Q Okay. I'd like to start with</p> <p>20 subparagraph A in Section 1.0 of the executive</p> <p>21 summary.</p> <p>22 So subparagraph A begins with the</p> <p>23 statement: "Plaintiffs' experts' reports fail to</p> <p>24 appropriately synthesize key data and observations</p> <p>25 available in the peer-reviewed scientific</p>	<p>1 report today?</p> <p>2 MR. FROST: Objection to form. Outside</p> <p>3 of the scope of this witness's opinions.</p> <p>4 THE WITNESS: Can -- can I answer or --</p> <p>5 MR. FROST: Yes.</p> <p>6 THE WITNESS: Sorry.</p> <p>7 MR. FROST: Unless I specifically</p> <p>8 instruct you not to answer, you can answer.</p> <p>9 THE WITNESS: Okay. I mean, yeah, my</p> <p>10 experience -- for example, anthophyllite and talc</p> <p>11 have very similar geochemistry -- or, sorry,</p> <p>12 chemistries that, in general, EDS is not</p> <p>13 sufficient to distinguish the two. And -- and he</p> <p>14 never provided quantitative data based on the EDS</p> <p>15 analyses, and so, you know, there are -- are</p> <p>16 issues there that I -- I take issue with.</p> <p>17 I would also say that I'm not an expert</p> <p>18 in SAED, so I'm not going to go down that road at</p> <p>19 all.</p> <p>20 Some things that are shown in the TEM</p> <p>21 images look much more like cleavage fragments to</p> <p>22 me than asbestos fibrils or bundles, but -- but I</p> <p>23 guess -- so it's my general reaction to the use of</p> <p>24 the EDS data, and -- yeah, and the -- and the</p> <p>25 assertion that some of these amphiboles that</p>
<p style="text-align: center;">Page 155</p> <p>1 literature that are pertinent to understanding the</p> <p>2 issues in this litigation."</p> <p>3 Did I read that correctly?</p> <p>4 A Yes.</p> <p>5 Q Okay. What -- first of all, what</p> <p>6 plaintiffs' experts' reports are you referencing</p> <p>7 there? Is it Dr. Cook and Dr. Krekeler?</p> <p>8 A Correct.</p> <p>9 Q Okay. Any others?</p> <p>10 A No.</p> <p>11 Q Okay. It's not Dr. Longo?</p> <p>12 A No.</p> <p>13 Q Do you have any opinions with respect to</p> <p>14 Dr. Longo's work?</p> <p>15 A Not that I'm offering in this report or</p> <p>16 today, no.</p> <p>17 Q Have you -- do you intend to offer</p> <p>18 opinions with respect to Dr. Longo in the future?</p> <p>19 MR. FROST: Objection to form.</p> <p>20 THE WITNESS: I mean, I think it depends</p> <p>21 on the questions that are -- are asked. But that</p> <p>22 really wasn't my charge to respond to his report,</p> <p>23 and so, yes, I did read it, but --</p> <p>24 BY MR. BURNS:</p> <p>25 Q Do you have any criticism of Dr. Longo's</p>	<p style="text-align: center;">Page 157</p> <p>1 presumably are identified in there based on the</p> <p>2 other analyses are -- are asbestos.</p> <p>3 BY MR. BURNS:</p> <p>4 Q Okay. Anything else?</p> <p>5 A No.</p> <p>6 Q All right. You next say that Dr. Cook</p> <p>7 and Dr. Krekeler, the plaintiffs' experts you</p> <p>8 refer to, failed to appropriately synthesize key</p> <p>9 data.</p> <p>10 What data did you have -- do you have in</p> <p>11 mind there?</p> <p>12 A Well, I mean, the -- the details of the</p> <p>13 geology of Vermont, the details of the</p> <p>14 metamorphism recorded by the rocks in the region</p> <p>15 of -- of interest, they basically present broad</p> <p>16 generalizations from some of these papers that</p> <p>17 present generalizations, and, you know, try to</p> <p>18 make analogies between rocks in the southern</p> <p>19 Appalachians, and I think the mines in Vermont are</p> <p>20 a very different beast than the ultramafic bodies</p> <p>21 that are -- are elsewhere throughout the orogen.</p> <p>22 Q Okay. What about Italy and China?</p> <p>23 A Yeah, so with China, I didn't see them</p> <p>24 zeroing in on the -- the Guangxi mines that were</p> <p>25 actually used. There -- I know Krekeler, I think</p>

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<p>1 specifically more than Cook, at least what I 2 remember offhand, is that, you know, a lot of his 3 discussion included mines that were thousands of 4 kilometers away off in the Shandong Peninsula that 5 were totally irrelevant.</p> <p>6 So, again, it's the lack of detail 7 related to petrological evolution in the immediate 8 vicinity of -- of the mines from which the talc 9 was derived.</p> <p>10 Q And you next question the observations 11 available in the peer-reviewed scientific 12 literature that are pertinent to understanding the 13 issues in this litigation.</p> <p>14 Is your use of data and observations 15 there somewhat synonymous, or are you drawing a 16 distinction?</p> <p>17 A I mean, there -- yeah. I guess it's 18 redundant in a sense.</p> <p>19 Q Not criticizing.</p> <p>20 A Yeah.</p> <p>21 Q Okay. Just trying to understand whether 22 there is a unique distinction there.</p> <p>23 You reviewed, and I can't remember the 24 precise number, quite a few articles and reports 25 with respect to the geology of Vermont. Is that</p>	<p>1 forming, they see information that is very 2 clearcut that they are not part of the same event. 3 And that is, that the asbestos forms during 4 late -- presumably in the tectonic orogeny when 5 these rocks are at low temperatures, low 6 pressures, they're -- these ultramafic bodies, 7 which were, you know, basically the rock collage 8 when it was kind of assembled at that time for a 9 large part, especially the bodies where the asbestos is documented.</p> <p>10 So in the late stages of the tectonic 11 orogeny about 450 million years ago, that's when 12 these ultramafic rocks are forming brittle 13 fractures. Water rich fluids are interacting with 14 them. Serpentization is occurring. And that is 15 when the chrysotile asbestos forms. And the few 16 instances that are documented of tremolite 17 asbestos are also part of that same event.</p> <p>18 Now, the talc, as I said before, forms 19 during the Acadian orogeny, so that's 80, 90 20 million years later, under very different 21 conditions. And I would also say that the rocks 22 from which the -- the cosmetic talc is derived in 23 Vermont is in a different geologic belt than the 24 asbestos-bearing rocks.</p>
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<p>1 fair?</p> <p>2 A Yes.</p> <p>3 Q Okay. Do any of those reports stand out 4 to you as particularly sound in terms of their 5 methodology, their primary sourcing, et cetera?</p> <p>6 MR. FROST: Objection to form.</p> <p>7 THE WITNESS: Particularly sound? Well, 8 certainly, as I mentioned before, the Sanford 1982 9 article really is the -- the piece of literature 10 out there that looked into the systems in which 11 talc is forming in -- in these rocks. You know, 12 it's really, again, kind of putting together the 13 body of data.</p> <p>14 But I will say Chidester comes up. 15 There -- there are a number of -- of articles that 16 make this same statement, and this is what I think 17 is key, is that -- again, there's a polyphase 18 tectonic history. So we've got three big orogenic 19 events that kind of build up the geology in 20 Vermont and influence it.</p> <p>21 And the people who have looked at those 22 rocks -- so Chidester said it, Sanford said it -- 23 those are the two that really come to mind -- is 24 that when they look at the relationship between 25 where asbestos is formed and where the talc is</p>	<p>1 But in any case, if -- you know, so 2 the -- the Acadian orogeny event where the talc is 3 forming is at much higher temperature conditions. 4 The rocks are deforming ductilely. There's this 5 intense metasomatism that's going on, and that is 6 the diffusion of chemical elements across these 7 rock boundaries that is basically changing the 8 composition of the ultramafic rock to something 9 that's much closer to the talc composition.</p> <p>10 That's why I have those weird triangle 11 diagrams in my report to demonstrate that. Sorry, 12 they're not weird to me, but I know they're odd to 13 others, a non-petrologist. I'll clarify that.</p> <p>14 And so we really have, again, a 15 different set of conditions. The fluids are water 16 and carbon dioxide rich in the Acadian orogeny. 17 And, again, there's no asbestos as far as I've 18 been able to determine that are recorded in those 19 rocks in any clearcut fashion, but, say, had 20 chrysotile been present in the ultramafic bodies 21 from which the talc formed, it would have been 22 erased by that -- that metamorphic process.</p> <p>23 So this is why I say I don't see any 24 documentation of it, nor were the conditions 25 appropriate. Because, again, where it's been</p>

<p style="text-align: center;">Page 162</p> <p>1 documented, it's -- asbestos is forming under -- 2 in different places in space and time and under 3 different conditions than the -- than the talc 4 forms. 5 BY MR. BURNS: 6 Q Okay. So just to be clear, it's your 7 opinion that you've not seen any evidence of 8 asbestos in the J&amp;J talc mines that we have been 9 discussing, right? 10 A That's correct. 11 Q Okay. Is it your opinion that there is 12 no evidence of asbestos in those J&amp;J talc mines? 13 MR. FROST: Objection to form. 14 THE WITNESS: It's not been 15 demonstrated to -- no evidence has been 16 demonstrated to me in the -- in the literature or 17 the reports that I've reviewed. 18 BY MR. BURNS: 19 Q Okay. Let me ask you a follow-on 20 question then. 21 Is it your professional opinion that it 22 is impossible for asbestos to exist in the talc 23 sourced from the J&amp;J talc mines? 24 MR. FROST: Objection to form. 25 THE WITNESS: It's extremely unlikely.</p>	<p style="text-align: center;">Page 164</p> <p>1 descriptions. Again, I wasn't looking at the 2 finished products. So I don't want to offer 3 opinions on those, but -- 4 BY MR. BURNS: 5 Q You mean you haven't actually seen the 6 thin sections. You're -- you've read descriptions 7 of them in the findings. Is that what you're 8 saying? 9 MR. FROST: Objection to form. 10 THE WITNESS: In the literature and 11 reports that I reviewed, that's what I'm 12 summarizing, yes. 13 BY MR. BURNS: 14 Q Do you have any opinion as to the -- as 15 to whether the appearance of fibrous talc would be 16 common in the talc sourced from the J&amp;J mines? 17 MR. FROST: Objection to form. 18 THE WITNESS: It could be present. 19 BY MR. BURNS: 20 Q In sub- -- in substantial quantities? 21 MR. FROST: Objection to form. 22 THE WITNESS: I have no -- I mean, I 23 think they are principally -- my understanding is 24 they are principally looking for platy talc, but, 25 you know, so in rock bodies dominated by that, you</p>
<p style="text-align: center;">Page 163</p> <p>1 BY MR. BURNS: 2 Q But not impossible? 3 MR. FROST: Objection to form. 4 THE WITNESS: Geologists don't like 5 using the word "impossible," but I would be 6 extremely surprised. 7 BY MR. BURNS: 8 Q Can you in your professional opinion 9 imagine circumstances where the chrysotile or 10 tremolite asbestos made its way into talc deposits 11 and was not erased by that process you were 12 describing? 13 MR. FROST: Objection to form. 14 THE WITNESS: Not in the local geology. 15 BY MR. BURNS: 16 Q Not in Vermont. 17 A Not -- yeah. 18 Q How about -- and, again, focusing on 19 Vermont here. We'll get back to China and Italy. 20 So focusing on Vermont, have you seen 21 evidence of fibrous talc in the talc that was 22 sourced from the J&amp;J mines? 23 MR. FROST: Objection to form. 24 THE WITNESS: I've seen evidence of 25 fibrous talc recorded in the thin section</p>	<p style="text-align: center;">Page 165</p> <p>1 can't rule out the -- the local presence of a 2 fibrous talc. 3 BY MR. BURNS: 4 Q So it could be present. 5 A Yes. I mean, we know it forms from 6 often -- I mean, a fibrous morphology again is the 7 result of the way the metamorphic reaction 8 proceeded, so those reactions are documented in 9 these rocks. So, yes. 10 Q Let's focus on China for a moment and 11 the Guangxi mines. What is your -- is your 12 opinion the same with respect to those mines as it 13 is with the Vermont J&amp;J mines? 14 A Yeah. I mean, they formed in a 15 different bulk composition and a different system, 16 but at similar metamorphic grades and with similar 17 principles at play. And once again, I never saw 18 anything in the literature related to the local 19 geology around those mines to support an assertion 20 of the presence of asbestos. 21 Q Did you see anything in the literature 22 related to the local geology of those mines? 23 A Yes. 24 Q What was that? 25 A Well, so -- I mean, I cite the papers</p>

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<p>1 that I -- I looked at. But basically that region 2 is -- is described in some detail in studies of -- 3 and people who were again looking at the tectonic 4 evolution of the rocks, but -- say Yao, et al., 5 2016, which is where the map figure is derived, 6 the Guangxi mine plots within that -- that mapped 7 area, and the formation of talc in those units is 8 described in the literature. 9 Lee, 1979, actually documents that in 10 detail and explores the -- the metamorphic 11 reactions involved in generating the -- the talc. 12 So, yes, there is -- there are 13 descriptions of the local geology in -- of the 14 units that are bracketing the talc bodies and from 15 which the talc was derived or formed. 16 Q But none of those are specific to the 17 Guangxi mine; is that right? 18 MR. FROST: Objection to form. 19 THE WITNESS: Oh, well, I mean it is 20 specific to them. This is the area that the -- 21 the mines are located. It relates to the units 22 that are documented in the -- the IMS documents 23 that describe the mines. So... 24 BY MR. BURNS: 25 Q I guess I -- maybe I did not phrase that</p>	<p>1 different when you're talking about the -- the 2 genesis of the talc itself. 3 Q What was the nature of the underlying 4 rock? Was it ultramafic or chloritic? 5 MR. FROST: Objection to form. Where? 6 BY MR. BURNS: 7 Q In China. 8 A Yeah. So, again, dolomitic marbles 9 juxtaposed next to these mafic igneous rocks that 10 underwent greenschist facies metamorphism. So, 11 again, that's in that range of, say, 500 -- around 12 500 degrees C. 13 So, yeah, in some of the mafic units, I 14 mean, there -- yeah, there's -- there's chlorite 15 present locally. They -- they don't describe the 16 same blackwall zones, and that's again because the 17 rock types are different. So... 18 Q And what is a blackwall zone? 19 A It refers -- well, so in -- in Vermont, 20 it refers to the -- the zone that's right at the 21 contact of the ultramafic rocks and the country 22 rock, and so there are chlorite and actinolite 23 rich domains. In some cases, also biotite, which 24 would truly give it the black color. But they 25 would be very dark rocks in comparison to the talc</p>
<p>1 quite the way I should have. 2 But, again, those descriptions are on a 3 regional level, right? They're not specific to 4 any particular mine or samples from that mine, 5 correct? 6 MR. FROST: Objection to form. 7 THE WITNESS: They're specific to the 8 local geology around those mines. 9 BY MR. BURNS: 10 Q Is the local geology similar to the 11 geology found here in Vermont? 12 A I mean, it's a -- it's a different -- 13 it's a different continent. It's got a different 14 history. In this case you have dolomitic marbles 15 that were juxtaposed next to mafic igneous rocks 16 that underwent a tectonic episode 400-something 17 million years ago, where there was ductile 18 deformation associated with the faults that are 19 shown on -- on the map. And you had silica rich 20 fluids present during metamorphism. And so, 21 again, it's a case of metasomatism, a case of 22 chemical exchange. 23 So some elements of the process are the 24 same or similar, but the -- the details of the 25 geology and the rock types are -- are quite</p>	<p>1 rich rocks that they're juxtaposed with. 2 Q I'll hand you what we'll mark as 3 Exhibit 11. 4 MR. BURNS: I think we got these from 5 your materials. Is that where they came from? 6 MR. FROST: Yeah. 7 MS. O'DELL: Yeah. 8 MR. FROST: Yep, that's fine. I know 9 what this is. 10 MR. BURNS: Okay. 11 (Webb Exhibit No. 11 was marked 12 for identification.) 13 BY MR. BURNS: 14 Q Is that the document, Exhibit 14, that 15 you relied on for your opinions with respect to 16 China? 17 A It's one of the documents. 18 Q Okay. Now, that is in Chinese. Do you 19 read Chinese? 20 A I know a few characters. 21 Q Okay. Is there an English translation 22 that you relied on or -- 23 A I asked counsel if -- if that service 24 would be available for this document, and it was 25 provided.</p>

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<p>1        However, even prior to that, though, I 2        was able to correlate the -- the map unit names 3        that are not in -- in Chinese, and so able to 4        deduce -- I don't have it. I'd have to refer to 5        the series of documents to point out, but, you 6        know, the geologic layer in the map that was 7        associated with the -- the talc formation. 8        And there are also some chemical 9        reactions that are written in English characters, 10      and so I can read -- read those. But -- but, yes, 11      the details of -- that are hidden in the Chinese 12      characters, I relied on the translation for that. 13      MR. BURNS: And, Mr. Frost, can you 14      provide that? 15      MR. FROST: I'm sure I can find it. It 16      might even be in the box. 17      MS. O'DELL: Do you know how we would 18      identify it? Is it -- 19      MR. FROST: It would say "Lee." I mean, 20      I think I could find it in electronic form, and 21      I'll e-mail it to you. 22      MS. O'DELL: Okay. 23      MR. BURNS: Thank you. 24      MR. FROST: That might be the easiest 25      way to dig it out.</p>	<p>1        these deposits directly. There the talc formed 2        early in the history of -- of the rocks. Because, 3        again, I mean, the -- this -- this region has, 4        again, a very complicated history represented by 5        hundreds of millions of years, and, you know, 6        they're in the Alps today, but that is a Cenozoic 7        collision orogenic event that built up those 8        mountains. 9        But the -- the people, again, who 10      studied the minerals present, their textural 11      relationships relative to one another, the 12      different structural elements and their relative 13      age relationships, all demonstrate -- I mean, it's 14      pretty much a consensus out there that the talc 15      formed in this pre-carboniferous basement. So, 16      you know, the constraint in the literature is 17      around 355 million years or -- or prior. 18      And the mineral assemblages, again, not 19      the talc specifically but in the rocks, the system 20      of rocks in which the talc is embedded record 21      evidence for metamorphism at up to like 575 22      degrees C or so, 600 degrees C, during an older 23      orogenic event. And then talc being very stable, 24      unless you achieve temperatures much higher 25      than -- I mean, close to 700 degrees or higher,</p>
<p style="text-align: center;">Page 171</p> <p>1        MS. O'DELL: Eric, can you do the 2        translation? 3        MR. FROST: He might be able to. Alex. 4        MS. O'DELL: Alex. 5        BY MR. BURNS: 6        Q    You said that was one of the documents. 7        What was the -- what were the others? 8        A    Yao, et al. Zhao, et al. Yao, et al., 9        2016. Zhao, et al., 2018. 10      MS. O'DELL: Do you mind spelling those, 11      please? 12      THE WITNESS: Yao, Y-A-O, et al. And 13      Zhao, Z-H-A-O. 14      MS. O'DELL: Thank you. 15      BY MR. BURNS: 16      Q    What about the peer-reviewed literature 17      allowed you to reach the same conclusions with 18      respect to Italy? 19      A    Well, so in Italy, there's actually more 20      direct description of the, I'm going to say, 21      Fontane, and it's probably pronounced differently 22      in Italy. I'm better with the Chinese 23      pronunciations than the Italian. 24      So there are a number of publications, 25      albeit it a small number, but that do describe</p>	<p style="text-align: center;">Page 173</p> <p>1        that talc basically went for a ride down a 2        subduction zone and came back up. 3        So that's why I'm familiar with the area 4        generally, because it's another case of one of 5        these ultra high pressure terrains like I studied 6        for my Ph.D. 7        But, again, it's a mesomat- -- well, 8        there's kind of two theories out there in terms of 9        either the talc formed from a sepiolite horizon, 10      which has a chemical formula very similar to talc. 11      So that transformation would be just a function of 12      sepiolite having gotten hot enough to react to 13      form talc. 14      But the relationship between -- of the 15      talc bodies basically being at this interface of, 16      again, carbonate rocks and mafic gneisses suggest 17      to me, rather, that it was again a case of 18      metasomatism, a chemical exchange across rock 19      boundaries during high temperature metamorphism 20      that allowed the transformation of volumes of rock 21      to basically move towards that talc composition. 22      So, again, it's the integration of what 23      people have seen in terms of mineral assemblages, 24      textural relationships, relative age 25      relationships, et cetera, that led me to my</p>

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<p>1       opinion.</p> <p>2       Q   And what are your principal sources for</p> <p>3       your Italian theories -- or, sorry, opinions?</p> <p>4       MR. FROST: Objection to form.</p> <p>5       THE WITNESS: So could -- those papers</p> <p>6       that I cite here, Cadoppi, et al., 2016; Sandrone,</p> <p>7       et al., 1990; Sandrone and Zucchetti, 1988.</p> <p>8       There's Del Greco and Pelizza, 1984.</p> <p>9       BY MR. BURNS:</p> <p>10      Q   Are there any that are not cited in your</p> <p>11      report?</p> <p>12      A   I don't believe so. I mean, if they</p> <p>13      are, they would be in the reliance, but I think</p> <p>14      this is the key body of the papers.</p> <p>15      Q   Oh, Exhibit 14, that Chinese document,</p> <p>16      how were you able to locate it or find it?</p> <p>17      A   I don't remember whether it was with</p> <p>18      GeoRef or using Google Scholar, but I -- you know,</p> <p>19      searching again the scientific literature, and --</p> <p>20      specifically for -- so this is why I asked for</p> <p>21      the -- the Imerys China mine documents was -- I</p> <p>22      used those to get the formation names at the mines</p> <p>23      of interest, and then I searched the literature</p> <p>24      for those formation names.</p> <p>25      The -- the Imerys documents also had</p>	<p>1       You know, part of, I guess, what I'm</p> <p>2       responded to are summary papers like Van Gosen,</p> <p>3       et al., 2004, that at kind of a surficial level,</p> <p>4       if you read that paper, you would come away with</p> <p>5       the impression that it was highly probable.</p> <p>6       But, again, when you dive into the</p> <p>7       details of the geology and you really start to</p> <p>8       understand how these very unique bodies formed,</p> <p>9       there's just -- there's just nothing that would</p> <p>10      lead you to that association.</p> <p>11      Q   What about Doll? Anything in Doll that</p> <p>12      you consider not scientifically sound or --</p> <p>13      A   The Doll, 1961?</p> <p>14      Q   I think that's the right year.</p> <p>15      MR. BURNS: Do you have that handy?</p> <p>16      MS. O'DELL: It may be '65.</p> <p>17      THE WITNESS: I'm not sure I cited that</p> <p>18      or --</p> <p>19      BY MR. BURNS:</p> <p>20      Q   It's in your materials. Let's take a</p> <p>21      look. '61.</p> <p>22      MS. O'DELL: '61.</p> <p>23      MR. BURNS: '61.</p> <p>24      THE WITNESS: I mean -- sorry.</p> <p>25      BY MR. BURNS:</p>
<p style="text-align: center;">Page 175</p> <p>1       coordinates of the mines in some cases, and so I</p> <p>2       used those geographic coordinates to, for example,</p> <p>3       determine that I was looking at the same geology</p> <p>4       that's shown in this map figure.</p> <p>5       Q   Okay.</p> <p>6       A   Or, rather, that the geology shown in</p> <p>7       that map figure described in those articles was</p> <p>8       relevant to the mines.</p> <p>9       Q   So turning to subparagraph C on the</p> <p>10      first page of your report, you say: "There is no</p> <p>11      well-founded, scientifically sound evidence in the</p> <p>12      peer-reviewed scientific literature for an</p> <p>13      association of amphibole asbestos with the talc</p> <p>14      deposits of concern."</p> <p>15      So I think we've run through the</p> <p>16      literature you consider well-founded.</p> <p>17      Is there literature out there in the</p> <p>18      peer-reviewed scientific literature that you don't</p> <p>19      consider well-founded or scientifically sound that</p> <p>20      supports the association of amphibole asbestos</p> <p>21      with the talc deposits of concern?</p> <p>22      A   I've never seen anything in the</p> <p>23      published peer-reviewed literature that implies</p> <p>24      specifically that there is asbestos in these --</p> <p>25      these talc mines.</p>	<p style="text-align: center;">Page 177</p> <p>1       Q   Go ahead.</p> <p>2       A   Is that the -- so is that the question,</p> <p>3       Doll 1961?</p> <p>4       Q   Yeah, that's the question. I think it's</p> <p>5       '61. Mm-hmm.</p> <p>6       A   Doll 1961 is a published bedrock map of</p> <p>7       Vermont.</p> <p>8       Q   Mm-hmm.</p> <p>9       A   So it is the version that existed prior</p> <p>10      to the update, which is Ratcliffe, et al., 9 -- or</p> <p>11      2011.</p> <p>12      So, yeah, some things have changed.</p> <p>13      There's been some new -- new mapping, some new age</p> <p>14      data that's come out, so, you know, things have</p> <p>15      shifted, but that was the state of knowledge at</p> <p>16      that time.</p> <p>17      Q   Mm-hmm.</p> <p>18      MR. BURNS: What's that?</p> <p>19      Leigh, I think you said it was 20.</p> <p>20      MS. O'DELL: 20.</p> <p>21      MR. BURNS: Yeah.</p> <p>22      (Counsel conferring.)</p> <p>23      BY MR. BURNS:</p> <p>24      Q   Oh, I see. I thought it was the</p> <p>25      statement of the geologist at the time.</p>

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<p>1            We're referring to bedrock geology of 2        the Woodstock quadrangle in Vermont by Chang, Ern 3        and Thompson. Are you familiar with that? 4            A Was that 1965 or thereabouts? I know I 5        made reference to one Chang article. 6            Q Judging by the font, 1965, you're right. 7            A Sorry. I'd just like to find that in my 8        report. 9            Q Sure. 10          MR. FROST: Did you say it was Chang, 11        C-H-A-N-G? 12          MR. BURNS: Yeah. 13          THE WITNESS: Right, I think this -- my 14        citation to it relates to the Five Corners mine. 15          BY MR. BURNS: 16          Q Okay. 17          A On page 21. 18          Q More broadly, is this an article that 19        you considered to be well-founded? Sound -- 20        scientifically sound? 21          A Well, it's -- I wouldn't say I would 22        venture an opinion on the entire body of that 23        document. I -- again, I looked at that 24        specifically with respect to Van Gosen's 2006 25        citation. Or maybe he -- no, I forgot. Did he</p>	<p>1        if there were enough iron for actinolite to form. 2            I also, you know, basically then took a 3        subset of that figure to -- for just a smaller 4        demonstrative and a smaller version of the 5        chemographic diagram in the upper left. 6            Q Mm-hmm. Okay. 7            A But, otherwise, it's -- it's pretty -- 8        pretty similar. 9            Q Is this diagram -- and forgive me for 10       being confused on it -- but would this diagram be 11       accurate for the J&amp;J mines in Vermont? 12          A Actually, it would, because those 13        ultramafic bodies are extremely magnesium rich. 14        And so -- yeah, I mean, that ultramafic bulk 15        composition, based on the data that have been 16        published for a larger and more unaltered body in 17        Ludlow and Dover, would -- would plot where 18        that -- that purple triangle is. 19          THE REPORTER: That what? I'm sorry. 20          THE WITNESS: Sorry. Where the purple 21        triangle is in the diagram. 22          BY MR. BURNS: 23          Q Did you plot this for Italy or China? 24          A I did not. 25          Q Would it differ?</p>
<p>1            actually even cite that and I came across it 2        myself? 3            Okay. So I found a reference to 4        chrysotile in the Five Corners mine in that -- 5        that document. But Van Gosen actually did not 6        include that one. 7            I mean, I don't -- I don't take issue, 8        you know, with -- 9            Q Okay. 10          A -- chrysotile at the Five Corners mine. 11          Q Any other criticisms of that article you 12        recall? 13          A Not that I think are -- no. 14          Q Let's turn to page 13. 15          And I'm looking at Figure 7. I believe 16        this is chemographic diagrams for the -- oh, 17        geez -- calcium oxide, silicon oxide, magnesium 18        oxide -- chemical system for calcareous and 19        ultramafic rocks modified from Winter, 2001. 20          Is that correct? 21          A Yes. 22          Q Okay. How was it modified? 23          A Well -- I think I added color. I also I 24        think added the position of actinolite, which 25        would plot similarly to tremolite in this system,</p>	<p>1        A Yeah, I mean, those again would be a 2        little bit more -- the general principle I'm 3        trying to -- to show here holds in the sense that 4        in order to make a talc ore, you have to have sort 5        of extreme metasomatic events to change the bulk 6        composition of the rock to something that is very 7        close to -- to talc. 8            So in principle, it fits, but in terms 9        of that, of that system, because it's limestones 10       and marbles juxtaposed next to schist, and then 11       mafic, but not ultramafic, the -- the chemical 12       components you would need to consider would be 13       slightly different. 14          Q How would it change the plotting? What 15        would be the effect? 16          MR. FROST: Objection to form. 17          THE WITNESS: Yeah, well, you would 18        probably need to combine some chemical components. 19        Again, this is -- this is assuming that, you know, 20        you've got these three components that are shown 21        at the apices of the triangle are dominating the 22        system. 23          So, depending on what those chemical 24        components would be, you would have different 25        minerals and minerals plotting in different</p>

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<p>1 positions in that diagram compared to what they 2 are here. 3 BY MR. BURNS: 4 Q And do you have sufficient data for 5 Italy or China to plot something similar? 6 A No. And -- I mean, I could find that, 7 but again this -- the purpose of this was really 8 to try and illustrate the point that while you can 9 have talc in carbonate or ultramafic rocks, with a 10 variety of minerals in your sort of general 11 metamorphic rocks, it takes a special process to 12 make a talc ore. 13 So, you know, I didn't engage in an 14 analysis with this beyond that. It was meant more 15 to -- to try and illustrate a key concept. 16 Q Let's go back -- 17 MS. O'DELL: Jack, would you please 18 provide White, 2001. 19 MR. FROST: If I have it. 20 MS. O'DELL: It's not -- 21 THE WITNESS: It's a textbook. 22 MR. FROST: Oh, is that what it is? 23 THE WITNESS: It's a geology textbook. 24 MR. FROST: Yes. I don't have it, but 25 I'll see if we can do anything during a break.</p>	<p>1 MR. FROST: I'm done with winter. 2 MR. BURNS: That was for the "Game of 3 Thrones" fans in the audience. 4 BY MR. BURNS: 5 Q Going back to page 1 of your report. 6 In that subparagraph C, you say based on 7 your "reviews of the geology associated with the 8 applicable mines, and the pressure and temperature 9 histories recorded by the rocks, any amphibole 10 found in Johnson's Baby Powder and Shower to 11 Shower derived from the Fontaine, southern Vermont, 12 and Guangxi talc mines would likely be incidental 13 actinolite or tremolite cleavage fragments from 14 non-asbestiform amphiboles, most likely derived 15 from the margins (blackwall zones) of the talc 16 deposits." 17 Is that correct? 18 A Yes. 19 Q Okay. What do you mean by "incidental 20 actinolite"? 21 A Well, that principally, except right 22 along the -- the margins of the blackwall, you 23 wouldn't expect actinolite to be present in the 24 main body of talc ore, because the bulk 25 composition isn't really appropriate for that.</p>
<p style="text-align: center;">Page 183</p> <p>1 MS. O'DELL: That would be -- that would 2 be good. 3 MR. FROST: Yeah, no promises, though. 4 I can't guarantee I can get it. 5 MS. O'DELL: Well, I mean if she is 6 relying on it, and it's something she has based a 7 figure in her report, then we requested those 8 materials. So I understand the issue, but if you 9 could work on it. 10 MR. FROST: As I said, I'll see -- I'll 11 see if we can -- 12 MR. BURNS: And I think you're referring 13 to Winter, right? 14 THE WITNESS: Yes, Winter. 15 MR. FROST: I was going to say -- 16 MS. O'DELL: Excuse me. Excuse me. 17 Winter. 18 MR. FROST: Winter, I've got a better 19 shot of finding, so at least I know what that is. 20 But I don't know if I can get it, but I'll see 21 what we can do during a break. 22 MR. BURNS: Winter is coming. 23 MR. FROST: That's right. Hopefully 24 not. Spring and summer are coming. 25 MR. BURNS: Thought I'd throw it out.</p>	<p style="text-align: center;">Page 185</p> <p>1 And tremolite, also you wouldn't expect 2 in great volumes in the talc itself, and that's 3 because calcium is an essential element in these 4 minerals. 5 And again, the chemistry that's reported 6 for the -- the Ludlow and Dover bodies, which are 7 our best proxy for the ultramafic protoliths, the 8 mantle rocks that we started with, really low 9 calcium levels, so -- whereas the metasedimentary 10 and metavolcanic wall rocks are -- are more 11 calcium rich, more iron rich. And so, you know, 12 that's where the blackwall -- the actinolite in 13 part -- by definition is part of the blackwall, 14 these actinolite zones. 15 So, I guess "incidental" would mean that 16 some accidental incorporation of -- of the 17 blackwall. 18 Q Meaning that the mining encompassed part 19 or all of that -- of one piece of the blackwall. 20 A Yeah. I mean, I don't -- again, I don't 21 know. Basically, it's like I can't come up with a 22 petrologic argument to say those should be present 23 in any abundance in the -- the talc that was the 24 desired mining product. So it's most likely 25 coming from the margins. But...</p>

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<p>1 Q Okay. Is actinolite a regulated form of 2 asbestos?</p> <p>3 MR. FROST: Objection to form.</p> <p>4 THE WITNESS: Asbestiform actinolite is 5 one of the regulated minerals, yes.</p> <p>6 BY MR. BURNS:</p> <p>7 Q And you mentioned specifically tremolite 8 cleavage fragments; is that correct?</p> <p>9 A Well, actinolite or tremolite cleavage 10 fragments.</p> <p>11 Q Okay. So both -- both modified --</p> <p>12 A Yeah, meaning that this actinolite, the 13 tremolite is not -- asbestiform did not grow in 14 that primary growth habit, and rather, could be 15 ablated or acicular or prismatic tremolite that -- 16 I guess then if it's -- somehow in the talc 17 undergoes, you know, the beneficiation process, 18 so crushing and grinding and breakdown into 19 cleavage fragments.</p> <p>20 Q So is it your testimony then that there 21 would be no asbestiform actinolite or tremolite in 22 the talc?</p> <p>23 A That's -- yes, that's my testimony.</p> <p>24 Q Okay. Let's turn to page 11. And to 25 Figure 6.</p>	<p>1 temperature conditions under which the talc ores 2 formed.</p> <p>3 Q In all of the Fontane, southern Vermont 4 and Guangxi talc ores; is that right?</p> <p>5 A Yeah. In general, there's some overlap 6 there. Guangxi would be more firmly in the 7 greenschist boundary; Vermont would be more in the 8 epidote-amphibolite facies, with the Fontane as 9 well.</p> <p>10 Q Okay. So there's a note in your 11 description of Figure 6 that: "Conditions 12 favoring asbestos formation are generally 13 associated with low-temperature and/or 14 low-pressure conditions," and then you describe 15 the zeolite, prehnite, prehnite-pumpellyite --</p> <p>16 A Yeah, prehnite-pumpellyite.</p> <p>17 Q Pumpellyite. Thank you. 18 -- and hornfels facies, right?</p> <p>19 A Yes.</p> <p>20 Q Okay. And just so we are all on the 21 same page and we can look at the same thing for a 22 second, I'm going to circle each of those areas. 23 See if I get them all correctly. I've 24 tried to circle here the areas where conditions 25 favor asbestos formation. Did I capture them all?</p>
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<p>1 So Figure 6 is a "Pressure-temperature 2 diagram modified from Winter (2001), showing in 3 gray the general boundaries of the different 4 metamorphic facies (for example, greenschist 5 facies) that represent conditions under which 6 certain combinations of minerals (i.e., 7 equilibrium assemblages) are stable as a function 8 of a rock's bulk composition."</p> <p>9 Is that right?</p> <p>10 A Yes.</p> <p>11 Q How was this modified from Winter?</p> <p>12 A I added in -- I believe the reaction 13 curve for chrysotile and lizardite maximum 14 stability, and that was taken from Evans, 2004.</p> <p>15 Q And that was the tremolite?</p> <p>16 A That was the chrysotile --</p> <p>17 Q Chrysotile. Sorry.</p> <p>18 A -- and lizardite maximum stability, the 19 brown dashed curve at around 300 degrees C.</p> <p>20 Q So Evans, 2004?</p> <p>21 A Yes.</p> <p>22 Q Okay.</p> <p>23 A And then I also added the -- the green 24 roughly oval-shaped region that was meant to 25 encompass the -- the general range of pressure and</p>	<p>1 A Yeah. I mean, in terms of low 2 temperature, that could extend up to the -- the 3 blueschist facies.</p> <p>4 Q Mm-hmm.</p> <p>5 A I mean, the key thing is there, again, 6 low-temperature deformation tends to be more 7 brittle and -- and allow the -- the ability for 8 fractures to open, which is one of the -- the most 9 common site for asbestos to -- to form.</p> <p>10 Q Okay. Now, is it --</p> <p>11 MR. FROST: Just a -- I'm just going to 12 object to some of the circles. It seems different 13 than what's listed at the bottom of Figure 6.</p> <p>14 MR. BURNS: And if it is, let me know.</p> <p>15 THE WITNESS: The hornfels, I was just 16 speaking generally to the -- the high temperature, 17 low -- low pressure. So...</p> <p>18 BY MR. BURNS:</p> <p>19 Q So would it include the albite-epidote- 20 hornfels, which looks to be low pressure, 21 relatively low temperature or --</p> <p>22 A Yeah. I don't have an issue with what 23 you circled. I mean --</p> <p>24 MR. FROST: I just wanted the record to 25 be clear.</p>

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<p>1           MR. BURNS: Mr. Frost -- Mr. Frost does, 2       but -- 3           MR. FROST: But I just wanted to make 4       sure the record was clear. 5           MR. BURNS: All right. Fair enough. 6       BY MR. BURNS: 7           Q So you mention -- mentioned fractures. 8       And I believe you said that fractures are one of 9       the conditions where asbestos can form. Is that 10      correct, or something along those lines? 11      A Yes, most -- most commonly as those 12      cross fibers or slip fibers. 13      Q Mm-hmm. So, speaking generally and 14      recognizing -- well, strike that. 15      Not having your background and 16      expertise, I have some general questions about 17      this. 18      So it appears from this figure that the 19      talc in the Fontane and Vermont and Guangxi ores, 20      in your view, based on its -- based on I guess 21      that regional petrology and circumstances there, 22      would have formed at about, what, 500 degrees 23      Celsius and 0.6 GPA pressure; is that right? 24      A That's a good ballpark. 25      Q Okay. And the conditions for the</p>	<p>1       with depth because of the weight of the overlying 2       column of rocks, and so if you're at low 3       pressures, the rocks are a bit -- a bit weaker, 4       but you don't have that pressure that basically 5       fights against voids opening. 6           So the rocks either have to be low 7       temperature and brittle because of that or shallow 8       in the earth's crust to basically not have enough 9       weight down on you to -- to keep voids from 10      opening. 11      You know, whereas the -- the conditions 12      of metamorphism for the formation of talc, much 13      higher temperatures and, you know, 20 kilometers 14      deep. That's pretty deep in the continental 15      crust. And we know from people who have studied 16      the -- again, the structures that these were 17      undergoing ductile deformation at the time. 18      So it's just those geologic conditions 19      aren't -- that's why I say they aren't favorable, 20      aren't -- aren't amenable. 21      Q At the same time, right? Is that the 22      issue? 23      MR. FROST: Objection. 24      BY MR. BURNS: 25      Q It would be difficult to have the same</p>
<p style="text-align: center;">Page 191</p> <p>1       creation of asbestos sort of surround that area, 2       but obviously at different pressures and different 3       temperatures. 4       Would minor variations in temperature or 5       in pressure, had they occurred, could those have 6       resulted in asbestos materials coming into the 7       same ores? 8      A I don't -- 9      MR. FROST: Object to form. 10     THE WITNESS: I don't believe so. 11     BY MR. BURNS: 12     Q And why? 13     A Well, again, when you're at the low 14     temperature end and rocks are -- would deform 15     brittly, again that's generally when fractures 16     could open. And because of the primary growth 17     habit of asbestiform fibers, they're basically 18     growing into -- into void spaces. So that's a 19     precondition, coupled with fluids that are 20     saturated and the chemical components from which 21     the asbestiform minerals would grow. 22     When you look at the -- when I say -- or 23     generally the hornfels conditions here, yeah, you 24     have higher temperatures, but you also have very 25     low pressures. And so rock strength increases</p>	<p style="text-align: center;">Page 193</p> <p>1       conditions exist at the same time for the creation 2       of both the asbestos materials and the talc ores. 3       Is that right? 4      MR. FROST: Object to the form. 5      THE WITNESS: Yeah, I mean, I would say 6       that, yes, at the time the talc was forming, the 7       conditions were not appropriate. 8      BY MR. BURNS: 9      Q Okay. Now -- but I believe we've 10     described circumstances where -- I'm thinking of 11     Italy where you said the talc may have formed 12     earlier in the continent's subduction zone, but 13     have survived the subduction. 14     Is it possible that -- are there 15     circumstances where asbestos could form at a later 16     time and under favorable circumstances where the 17     talc would remain solid, because it's a stable 18     mineral, but a fracture, for example, could lead 19     to the incorporation of asbestiform materials? 20     MR. FROST: Objection to form. 21     THE WITNESS: Well, I mean, I suppose we 22     could devise a hypothetical situation where the 23     conditions were all ripe for this to happen, but 24     there's no evidence that that's the case. 25     As I said, all asbestos in Vermont,</p>

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<p>1 everybody has written about it, there's no 2 disagreement that that occurred, you know, 80 3 million years prior to the formation of the talc, 4 give or take a few million years. 5 And the conditions that postdated the 6 formation of the Italian talc in the Fontane mine 7 were way up here (indicating). So, I mean, maybe 8 similar in temperature, but much, much higher -- 9 higher pressures. Yeah, they're back at the -- 10 the surface today, but, you know, I think -- 11 again, when asbestos forms, it's -- it's regional 12 conditions that allow that to occur, and so we'd 13 have other -- I would expect to see that 14 documented throughout the -- the geology. And I 15 just -- you know, I don't see any evidence for it. 16 BY MR. BURNS: 17 Q Turning to the Vermont example where the 18 asbestos formed before the talc, are fractures 19 again a potential explanation for migration of the 20 asbestos -- 21 MR. FROST: Objection to form. 22 BY MR. BURNS: 23 Q -- subsequently? 24 A I've never heard of migration of 25 asbestos, so I don't know --</p>	<p>1 along that, and that's when you would get the 2 fibrils basically at an angle to the -- to the 3 fracture walls connecting on either side. 4 Q Okay. And you say that is the most 5 common means by which the asbestos occurs in 6 Vermont? 7 A (The witness nods.) 8 Q But not with respect to the J&amp;J mines. 9 MR. FROST: Objection to form. 10 THE WITNESS: I'm -- I don't know what 11 you mean by that. Sorry. 12 BY MR. BURNS: 13 Q Well, meaning because you haven't seen 14 any evidence of asbestos in the J&amp;J mines, what 15 you're describing there would not be true of those 16 mines? 17 A Yeah. 18 MR. FROST: Objection to form again. 19 BY MR. BURNS: 20 Q Given the geologic -- given the 21 geology -- the local geology of the J&amp;J mines, 22 would that process have been possible? 23 A I mean, again, we could devise a 24 hypothetical situation that might satisfy those 25 conditions, but I --</p>
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<p>1 Q Well, I didn't really mean migration. I 2 mean the filling in of those -- those fractures 3 with the asbestos materials. 4 A I mean, dominantly in Vermont where 5 asbestos is documented, it's says cross and slip 6 fibers. 7 Q And what do you mean by that? 8 A That basically as these fractures were 9 opening, they're apparently, you know, filled with 10 fluid at the same time that became saturated in 11 the chemical component, so the chrysotile chemical 12 formula basically, that those minerals or, you 13 know, fibrils nucleated on walls of -- of the 14 fractures, and depending on whether they opened 15 like that or like that (demonstrating), in this 16 case they appear to continue to grow as the 17 fracture continues to open. So it's -- the 18 nucleate on either side and -- or there are some 19 veins where things nucleate in the middle 20 initially, and then grow outward as well. 21 But in any case, the fibrils would be 22 growing as the fracture is opening. So cross 23 fibers would be perpendicular to the fracture 24 walls. Slip fibers would be one of those 25 fractures where there's, you know, some offset</p>	<p>1 Q I realize you haven't seen it, but 2 would -- would it be possible? 3 MR. FROST: Objection to form. 4 Inappropriate hypothetical. 5 THE WITNESS: Yeah, I'm sorry, I don't 6 know how to -- you know, lots of things are 7 possible, but many things don't happen. So I 8 can't -- I don't -- I can't comfortably answer 9 that without having all of the variables sort of 10 outlined for me and -- 11 BY MR. BURNS: 12 Q Well, I certainly understand that, but 13 really I -- we're talking about a pretty small set 14 of variables, the ones you described as relatively 15 common in Vermont in terms of the formation of 16 asbestos materials. 17 And what I'm saying is, given the 18 regional geology that's present in the J&amp;J mines, 19 is it possible -- not probable, not, you know, 20 highly possible -- but is it possible that that 21 process of the creation of asbestos may -- may 22 have occurred in a similar fashion in those J&amp;J 23 mines? 24 MR. FROST: Same objection to form and 25 inappropriate hypothetical.</p>

<p style="text-align: center;">Page 198</p> <p>1 THE WITNESS: Yeah, like I said, we 2 could devise a -- a scheme presumably in which 3 that could occur, but it's -- while it might be 4 possible in some parallel universe, I -- I just -- 5 it's not probable, and I just don't see any 6 evidence for it having occurred here. 7 BY MR. BURNS: 8 Q Well, what would constitute evidence for 9 you in that context? 10 MR. FROST: Objection to form. 11 THE WITNESS: Well, I would imagine that 12 in that belt of rocks, people would record 13 fractures filling with asbestos, more generally, 14 in the literature. Because, again, people have 15 been looking at these rocks for over a hundred 16 years. People are certainly interested and 17 concerned about asbestos. 18 So, had -- you know, it would be 19 documented in some of these, you know, Vermont 20 state reports, the USGS reports in the 21 peer-reviewed literature around the Chester dome, 22 and it's just -- it's not in anybody's data and 23 observations in the -- in the field. 24 BY MR. BURNS: 25 Q Well, what if it -- and this -- just</p>	<p style="text-align: center;">Page 200</p> <p>1 THE WITNESS: Yeah, and I did not find 2 any, because, again, the vast majority of what I 3 looked at was my own research. 4 MR. BURNS: Okay. 5 THE WITNESS: Can I take a quick break? 6 MR. BURNS: Oh, of course, sure. 7 THE WITNESS: I've been drinking a lot 8 of water and tea and -- 9 MR. FROST: Yeah, I was going to say, 10 actually, I could use the restroom. 11 THE VIDEOGRAPHER: Going off the record 12 at 4:26. 13 (Recess.) 14 THE VIDEOGRAPHER: We're back on the 15 record at 4:57 p.m. 16 BY MR. BURNS: 17 Q Welcome back, Dr. Webb. 18 So, Dr. Webb, we were talking about when 19 last we left off, evidence -- evidence for 20 asbestos in talc in the J&amp;J mines in Vermont, 21 specifically. 22 MR. BURNS: Let's go ahead and mark 23 this, Amanda. 24 (Webb Exhibit No. 12 was marked 25 for identification.)</p>
<p style="text-align: center;">Page 199</p> <p>1 throwing this out there, what if -- what if it was 2 documented in a core log or observations by the 3 mining company at, say, the Argonaut mine, would 4 you consider that evidence? 5 MR. FROST: Objection. 6 BY MR. BURNS: 7 Q That would at least merit additional 8 testing? 9 MR. FROST: Objection to form. 10 THE WITNESS: Well, I mean, you know, if 11 you've got evidence where people have -- I mean, 12 where I can understand the methodology that was 13 used and see the data and observations -- I don't 14 want to take some random person who I don't know 15 their qualifications or what they're describing. 16 You know, so I'd be happy to -- if you've got 17 something you want me to look at that -- that 18 presents that, to consider it, sure. 19 BY MR. BURNS: 20 Q Okay. But you weren't presented any 21 such evidence when you were doing your report. 22 MR. FROST: Objection to form. 23 BY MR. BURNS: 24 Q Correct? 25 MR. FROST: Supposes there's evidence.</p>	<p style="text-align: center;">Page 201</p> <p>1 BY MR. BURNS: 2 Q All right. I'm going to hand you what 3 we've marked as Exhibit 12. 4 And just let me know when you are ready, 5 if you want to take a second to look it over. 6 A Okay. (Peruses document.) 7 Okay. 8 Q All right. Dr. Webb, have you seen 9 this -- well, let me start. 10 Exhibit No. 12 is a document bearing the 11 Bates labels IMERYS 219720-722. It appears to be 12 dated March 25th, 1992. Title appears to be 13 "Cyprus Ore Reserves - Arsenic &amp; Tremolite." 14 Did I pronounce that -- or did I read 15 that correctly? 16 A "Cyprus Ore Reserves - Arsenic &amp; 17 Tremolite," yes. 18 Q Okay. Great. 19 Have you seen this document before? 20 A I have not. 21 Q Okay. This -- and have you had a chance 22 to read it? 23 A I did, yes. 24 Q Okay. And is it fair to say that this 25 document contains some discussion about the</p>

<p style="text-align: center;">Page 202</p> <p>1 presence of asbestos materials in talc deposits in 2 Vermont? 3 A It mentions fibrous amphiboles. 4 Q Including tremolite; is that right? 5 A Yes. 6 Q Okay. Is this the type of evidence that 7 would give you some concern if you had been 8 presented it when conducting your analysis? 9 A Not really, because fibrous is a -- a 10 general term for maybe an elongate or long aspect 11 ratio, but it's imprecise, and so it doesn't 12 necessarily indicate asbestos. 13 Q Fibrous tremolite? 14 A Yes. 15 Q It doesn't indicate asbestos to you? 16 A No. 17 Q Okay. Why is that? 18 A Again, because "fibrous" is used by 19 different people in different ways, and I've seen 20 many instances in the literature where it's used 21 for -- synonymously with like acicular. I mean, 22 I've used the terms "fibrous" in my work when I'm 23 talking about working with fault zones and -- and 24 quartz fibers, for example. But, again, it's 25 because they're crystals with long aspect ratios,</p>	<p style="text-align: center;">Page 204</p> <p>1 THE WITNESS: Well, again, I mean, it's 2 the use of the -- fiber's an imprecise term. I 3 mean, obviously they don't want asbestos in -- in 4 their product, so -- but, again, I don't -- I 5 don't see anything here that -- that indicates 6 this term is -- is really -- equates to 7 asbestosiform. So... 8 BY MR. BURNS: 9 Q Well, the next paragraph down says: 10 "Vermont talcs are derived from altered serpentine 11 - a natural host for asbestosiform minerals. There 12 is certainly visible tremolite and actinolite in 13 specific zones of the Vermont deposits - fibrous 14 tremolite was identified by the writer in 15 exposures and cores at the East Argonaut and Black 16 Bear mines. Cyprus staff report past tremolite 17 from the Hammondsburg and Clifton deposits." 18 Did I read that correctly? 19 A Sorry. Where was -- 20 Q That's the fifth paragraph down, page 2. 21 A Yeah. So, I mean, you know, in general, 22 tremolite, I'm not concerned about that. 23 Tremolite means to me -- again, without -- unless 24 it's really described in detail, that's consistent 25 with the asbestosiform habit, which again is a</p>
<p style="text-align: center;">Page 203</p> <p>1 and it's -- it's not synonymous, not -- you can't 2 take this to -- to indicate asbestosiform tremolite. 3 Q Have you -- what would you -- what else 4 would you need to take it to mean asbestosiform 5 tremolite? 6 A Well, some detailed description about 7 the habit of the minerals that is consistent with 8 the definition of "asbestosiform." 9 Q Well, so I'll direct you on page 2 to 10 the fourth paragraph down. 11 It says: "Cyprus claims that there are 12 no fibres in their cosmetic talc products, and 13 they work rigorously to ensure this. However, a 14 recent paper published by Rutgers University 15 worker, Alice Blount, suggests the presence of 16 fibre in several cosmetic talcs, some of which 17 might have been from Cyprus West Windsor material, 18 which is a source of great concern to Cyprus 19 management, and potentially to their principal 20 customer, Johnson &amp; Johnson." 21 Why would Cyprus be concerned about 22 fibrous asbestosiform materials, including 23 references to fibrous tremolite, if it were not 24 asbestos? 25 MR. FROST: Objection to form.</p>	<p style="text-align: center;">Page 205</p> <p>1 primary growth habit. 2 You know, I'm not shocked that there's 3 tremolite here. I'm not shocked that there's 4 maybe acicular tremolite or, you know, tremolite 5 that someone might describe, depending on how they 6 used the term "fiber," as -- as fibrous. But I 7 can't -- I can't take anything in here and say, 8 This leads me to believe that there's actually 9 asbestos that's been identified. 10 Q Is asbestosiform tremolite a regulated 11 form of asbestos? 12 A Asbestosiform tremolite is a regulated 13 form, yes. 14 Q Are you able to discern from the 15 terminology used in this memo -- are you -- strike 16 that. 17 Are you able to exclude the possibility 18 that the tremolite referenced in this memo is 19 indeed asbestosiform tremolite? 20 MR. FROST: Objection to form, calls for 21 speculation. 22 THE WITNESS: Well, again, I mean, 23 asbestos is so rare, and, again, takes these 24 special conditions that -- 25 I'm sorry, I lost the -- the question.</p>

<p style="text-align: center;">Page 206</p> <p>1 BY MR. BURNS: 2 Q No problem. I simply asked, can you 3 exclude the possibility that this is asbestosiform 4 tremolite that's referenced in the memo? 5 A Based on everything I have learned and 6 reviewed and understand, yeah, I -- I just 7 can't -- I can't read this and say that this 8 convinces me of anything. I'd, again, need to see 9 field photographs of what this worker saw or 10 photomicrographs, the -- again, a real distinct 11 description that is consistent with the 12 asbestosiform habit. And fibers, fibrous, just -- 13 it could mean anything. It could mean a number of 14 things. 15 Q So it's fair to say that reading this, 16 you would need to see more? 17 A Yes. 18 Q Okay. Now, there's a reference in the 19 sixth paragraph down. It says: "Tremolite in 20 these deposits is encountered in the contact zones 21 between the talc and the surrounding schist; in 22 'grey talcs' in the vicinity of the contacts; and 23 associated with the chlorite/amphibole waste zones 24 within the talc ores that are locally termed 25 'cinders.'"</p>	<p style="text-align: center;">Page 208</p> <p>1 that. If you've seen, I mean, asbestos in a hand 2 sample, which hopefully you've never held in your 3 hands, I know, but we've got drawers in the rock 4 collection at UVM -- I mean, asbestos is pretty 5 apparent when you see it in -- in person at the 6 macroscopic scale. 7 BY MR. BURNS: 8 Q Okay. 9 A Yeah. 10 Q And in the microscopic scale, what are 11 you looking for? Is there a certain aspect ratio 12 of the fibers that you're trying to determine? 13 MR. FROST: Same objection. Beyond the 14 scope of her report and her expertise. 15 THE WITNESS: Yeah, I mean, there's no 16 one specific aspect ratio. Again, you would -- if 17 it were -- if it were broken down and you were 18 looking at a loose pile of this -- well, again, in 19 bulk, I think it would be clear because you would 20 have long fibrils and bundles, and there would 21 probably be some that might be curved and they 22 might be quite long. 23 In -- under the microscope, I mean, you 24 would be looking for the same thing, long -- long 25 aspect ratios, but, again, nothing specific</p>
<p style="text-align: center;">Page 207</p> <p>1 Do you see that? 2 A Yes. 3 Q Are you familiar with the term 4 "cinders"?" 5 A I've heard it. I mean, it's not a term 6 that I throw around, but... 7 Q What is your understanding of what it 8 describes in -- in layman's terms? 9 A Like I said, I've heard it, but it's not 10 something I use, and so it's not something I feel 11 prepared to define for you. 12 Q Have you ever investigated cinders in 13 your -- in your work? 14 A No. 15 Q When -- were you to investigate -- 16 strike that. 17 Were you to examine a sample of 18 tremolite to determine whether it was asbestosiform, 19 what would you do? 20 MR. FROST: Objection to form. Outside 21 of the scope of her expertise. 22 THE WITNESS: Well, I mean, I think it 23 would start with the recognition of -- of fibrils, 24 bundles of fibrils, and, I mean, you could 25 recognize that in an outcrop if -- if you saw</p>	<p style="text-align: center;">Page 209</p> <p>1 because it might vary in -- in the population 2 you're looking at. 3 BY MR. BURNS: 4 Q Would a 5-to-1 ratio suffice? 5 MR. FROST: Same objection. 6 THE WITNESS: No. 7 BY MR. BURNS: 8 Q No? 9 A (Witness shakes head.) 10 Q Are you aware that that's the ratio 11 specified by the National Institute of 12 Occupational Safety and Health? 13 MR. FROST: Objection to form. 14 Misstates document. 15 THE WITNESS: I -- I know that there are 16 5-to-1 and 3-to-1, depending on the -- my -- the 17 source of the -- the counting criteria, that there 18 are small-aspect-ratio cutoffs for like that. 19 But, again, you know, that's in cases -- those 20 ratios were developed for cases when there's 21 abatement of known asbestos at hand. 22 So, you know, I would say that I 23 regularly run into minerals that would meet that 24 criteria, 3-to-1 or 5-to-1, and they're -- you 25 know, they can be quite -- well, not that large,</p>

<p style="text-align: center;">Page 210</p> <p>1 but, you know -- so, again, scale matters as well. 2 But, yeah, I don't think that's a -- an 3 accurate cutoff or criterion for -- for issues 4 outside of abatement. 5 MR. BURNS: Let's mark this one, Amanda. 6 BY MR. BURNS: 7 Q We'll mark this as Exhibit No. 13, 8 Dr. Webb. 9 (Webb Exhibit No. 13 was marked 10 for identification.) 11 THE WITNESS: (Peruses document.) 12 Okay. 13 BY MR. BURNS: 14 Q All right, Dr. Webb. Exhibit 13 is a 15 document with Bates label IMERYS 28 -- 238270 16 through 238277, and it's titled "Interoffice 17 Correspondence," "Subject: Hamm Mine Core 18 Drilling." 19 The second paragraph, Dr. Webb, contains 20 the following sentence: "Fibrous amphiboles 21 (actinolite) were observed only within chloritized 22 mafic dikes, extending, in places, a couple of 23 inches into the contacting talc ore." 24 Did I read that correctly? 25 A Yes.</p>	<p style="text-align: center;">Page 212</p> <p>1 THE WITNESS: No, because, I mean, up 2 and down Vermont, near talc, away from talc, 3 people describe a lot of fibrous amphiboles, and, 4 you know, virtually in all cases they refer to -- 5 this term is used for an acicular habit that is 6 distinctly different from asbestosiform. 7 So, I mean, nothing I read here is 8 surprising to me. It -- it doesn't raise the 9 questions that, you know -- again, in the absence 10 of detailed descriptions, there's -- 11 BY MR. BURNS: 12 Q And that's even though up and down 13 Vermont, the presence of confirmed asbestos has 14 occurred? 15 MR. FROST: Objection to form. 16 THE WITNESS: Virtually all of that is 17 chrysotile, and not amphiboles, and, yeah, there's 18 a lot of amphibole in -- in the Green Mountains, 19 and so -- I mean, long aspect ratio amphiboles 20 are -- are garden variety amphiboles in our state. 21 MR. BURNS: Let's mark this one -- 14? 22 (Webb Exhibit No. 14 was marked 23 for identification.) 24 THE WITNESS: Does anybody have a 25 magnifying glass handy? Shall I do --</p>
<p style="text-align: center;">Page 211</p> <p>1 Q Is this the type of statement that would 2 cause you to want to seek more information? 3 A Not necessarily, because, again, fibrous 4 amphiboles, in general, 99 percent of the time 5 will not necessarily refer to asbestosiform 6 actinolite, and -- I mean, I've seen images where, 7 yeah, most of these amphiboles in the region have 8 these long aspect ratios, but, again, they do not 9 meet the criterion of -- of the asbestosiform habit. 10 Q And what criterion are you speaking of 11 in that context? 12 A Again, well, primary growth habit of 13 fibrils in -- generally in bundles that have long 14 aspect ratios but high flexibility, relatively 15 defect-free surfaces which impact or -- are part 16 of what leads to their chemical resistance. 17 So, again, without photomicrographs or 18 photos that really give the details of what is 19 meant by fibrous, there's no way to extrapolate 20 from this the presence of asbestos. 21 Q But given the potential risk and the -- 22 and the fact that you can't exclude the 23 possibility of asbestos, wouldn't you want to seek 24 additional information? 25 MR. FROST: Objection to form.</p>	<p style="text-align: center;">Page 213</p> <p>1 BY MR. BURNS: 2 Q And just to help you out, I'm going to 3 point you to -- you're welcome to look at the 4 whole thing -- I'm going to focus on the back side 5 of page 2. 6 A So, yeah, the page where I asked for -- 7 Q The page where you needed a magnifying 8 glass. 9 A I do have reading glasses in my -- 10 Q Well, let's see, do we have a clean copy 11 here? I can probably blow it up a little bit 12 here. 13 MR. FROST: You can take this one. It's 14 clean. 15 MR. BURNS: All right. 16 MR. FROST: Is that -- can you see that 17 better, Laura? 18 MR. BURNS: Not yet. 19 MR. FROST: He's going to try to zoom in 20 on it. 21 THE WITNESS: I mean, actually, can I 22 get my glasses, and -- 23 MR. BURNS: Sure, absolutely. 24 THE VIDEOGRAPHER: Going off the record 25 at 5:22 p.m.</p>

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<p>1 (Pause.) 2 THE VIDEOGRAPHER: We're back on the 3 record at 5:24 p.m. 4 BY MR. BURNS: 5 Q Okay, Dr. Webb, you have Exhibit 14 in 6 your hand, which bears Bates label IMERYS 436951 7 through IMERYS 436971. 8 Just one question about Exhibit 13, the 9 preceding exhibit, just a quick question. Had you 10 seen that exhibit before? 11 A No. 12 Q Okay. So same question with respect to 13 Exhibit 14 to start, is this a document you've 14 seen before? 15 A No. 16 Q Okay. Let's focus on the fourth page in 17 the documents, IMERYS 436954. 18 A Sorry, is the first -- is this page 1? 19 Q Yes. 20 A Oh, okay. So it's the back of the 21 second sheet. Yeah, okay. 22 Q That's right. 23 A I'm making sure it's what I actually 24 looked at. 25 Q No problem. And I've put it up on the</p>	<p>1 A Yes. 2 Q Would these notations cause you to want 3 to inquire more as to the nature of these test 4 findings or core samples and the constituency of 5 the minerals? 6 MR. FROST: Objection to form. 7 THE WITNESS: Yeah, I mean, again, the 8 presence of actinolite around the ore bodies is, 9 you know, not a shocker whatsoever. I mean, so it 10 doesn't surprise me. 11 You know, in terms of "detrimental 12 minerals," I don't know what they mean. Obviously 13 these are things that they don't necessarily 14 want in the -- I mean, I don't want to rub 15 actinolite on my face, asbestosiform or 16 non-asbestosiform, but -- 17 BY MR. BURNS: 18 Q Are those questions you would want to 19 ask the author? 20 MR. FROST: Objection to form. 21 THE WITNESS: No, again, because I 22 wouldn't be surprised about the -- the presence of 23 actinolite generally that -- you know, I'd see 24 this and move on, and again try and find -- well, 25 like in the materials that I looked at, some --</p>
<p style="text-align: center;">Page 215</p> <p>1 ELMO, just so we can have a little bit better view 2 of it. I don't know if that's better for you 3 or -- 4 A I'll look at where you're pointing at, 5 and then I'll confer with this too. 6 Q Okay. These appear to be and are titled 7 "Ore Characterization Summary Sheets." Do you 8 agree with that? 9 A What was the first word you said, 10 "before"? 11 Q "Ore Characterization Summary Sheets." 12 A Yes, this says "Ore Characterization 13 Summary Sheets," yes. 14 Q Okay. And there appear to be two of 15 these summary sheets side by side dated September 16 '92, specifying ore types and associated 17 materials. 18 A Yes. 19 Q And you see in both the presence of 20 actinolite and serpentine is indicated. 21 A Yeah. 22 Q Okay. And they are also -- the 23 actinolite and -- the actinolite is noted as a 24 detrimental mineral below each notation; is that 25 right?</p>	<p style="text-align: center;">Page 217</p> <p>1 some indication, some description that would 2 equate this actinolite to asbestosiform actinolite. 3 BY MR. BURNS: 4 Q Well, if you were blindfolded and the 5 person who obtained and tested the sample told you 6 that it contained actinolite, would you want to 7 rub that on your face? 8 MR. FROST: Objection to form. 9 THE WITNESS: It would hurt. I mean, it 10 would be gritty. 11 BY MR. BURNS: 12 Q If it was asbestosiform, it may be even 13 worse. 14 MR. FROST: Objection to form. 15 THE WITNESS: Well, yeah -- but, yeah, I 16 mean, again, you know, actinolite is no surprise. 17 I talk about actinolite in my -- in my report. In 18 the absence of clearcut asbestosiform habit -- 19 BY MR. BURNS: 20 Q You're just not interested in knowing 21 more? 22 MR. FROST: Objection to form. 23 THE WITNESS: I mean, well -- yeah, I 24 mean, I -- I feel like I'm not surprised to see 25 actinolite show up occasionally in the tests, and</p>

<p style="text-align: center;">Page 218</p> <p>1 that is not a surprise. It's known. I don't know 2 what else to say. It's -- 3 BY MR. BURNS: 4 Q Have you drawn any -- are you prepared 5 to offer any opinions with respect to the presence 6 or absence of arsenic in the talc in the J&amp;J 7 mines? 8 A I mean, I -- I'm familiar with some of 9 the -- the literature. It wasn't something that I 10 focused or, you know -- 11 Q Or you were asked to do. 12 A -- or opined about in my report. So, I 13 know some things, but I didn't prepare in depth on 14 that topic for this deposition. 15 Q Nor have you offered an opinion on it? 16 A No. 17 Q Do you plan to offer an opinion on it? 18 MR. FROST: Objection to form. 19 THE WITNESS: Not really, but I guess it 20 depends on what you ask me, the nature of the 21 questions, if there are further questions on that. 22 BY MR. BURNS: 23 Q What about any other heavy metals in the 24 J&amp;J talc -- 25 MR. FROST: Objection.</p>	<p style="text-align: center;">Page 220</p> <p>1 opinion as to the presence or absence of any of 2 those minerals? 3 A Well, again, they're -- they're trace 4 elements that I know have been documented, but, 5 you know, again, I don't have it in my head 6 what -- what those concentrations are or the 7 details of the distribution. So I'm not -- I'm 8 not ready today to -- to comment on that for you. 9 Q And you haven't been asked to. 10 A No, I have not been asked to, no. 11 Q Okay. If you'd go back to Exhibit 1, 12 your report, Dr. Webb. 13 And I realize the level of detail on 14 page 17 in -- in Figure 9 makes this difficult. 15 First of all, did the mineral codes or 16 rock codes vary across maps, or can they vary? 17 MR. FROST: Objection to form. 18 THE WITNESS: Each of the different 19 colored or patterned units here is a different -- 20 is a different rock unit. So, yes, there's a 21 distribution of different rock types here in 22 this -- 23 BY MR. BURNS: 24 Q Well, by that I mean -- let's see, this 25 map was taken from --</p>
<p style="text-align: center;">Page 219</p> <p>1 BY MR. BURNS: 2 Q -- are you going to offer any opinion on 3 those? 4 MR. FROST: Objection to form. Assumes 5 there's any metals in the J&amp;J talc. 6 THE WITNESS: Again, I -- I have some 7 general knowledge, but it's not literature that I 8 reviewed or summarized for here. So I don't feel 9 prepared to -- as we sit here today, to opine on 10 that. 11 BY MR. BURNS: 12 Q And just so I can close that loop, any 13 opinion as to the presence or absence of nickel? 14 MR. FROST: Same objections. 15 THE WITNESS: I mean, I would say 16 presence, yes. At what levels is where the devil 17 in the details is, so -- and I can't quote you 18 parts per million or parts per billion here, 19 but -- 20 BY MR. BURNS: 21 Q Same question with respect to cobalt? 22 A Same answer. 23 Q Chromium? 24 A Similar answer, yeah, and, again, I'm -- 25 Q But you're not prepared to offer an</p>	<p style="text-align: center;">Page 221</p> <p>1 A It's Ratcliffe, et al., 2011. 2 Q 2011. Okay. Which was a GS -- USGS 3 map, right? 4 A (The witness nods.) 5 Q And have you cited or described any 6 non-USGS maps in your report? 7 A Well, I mean -- well, Karabinos -- not a 8 specific map -- well, actually, there are -- in 9 Karabinos, et al., 2010, I talk about the 10 isograds. Again, the -- the lines that you would 11 draw on the map that delineate boundaries between 12 rocks that have experienced the same pressure 13 temperature conditions during a metamorphic event. 14 Q Okay. And what I'm really getting at 15 are -- is not necessarily the separation into 16 different codes, but the codes themselves that are 17 used for rocks that are relevant to your analysis. 18 Can those vary across maps, meaning between the 19 USGS maps and the other map you just described? 20 A Oh, they might. 21 MR. FROST: Objection to form. 22 BY MR. BURNS: 23 Q Do you recall offhand the specific rock 24 codes that you viewed as relevant to your analysis 25 in this particular case?</p>

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<p>1 A I believe the -- I'd have to look at 2 the -- the map -- the map index to really confirm, 3 but I believe that the ultramafics here are the 4 CZU, and that, in general -- I mean, the -- the 5 country rocks that host those bodies are -- that's 6 the Mooretown information, but the -- O something. 7 I -- yeah, sorry, I don't have the code memorized.</p> <p>8 Q Okay. Are you familiar with any reports 9 of mass fibers, mass asbestos fibers in Vermont 10 talc deposits?</p> <p>11 A No.</p> <p>12 Q Are mass fibers relatively rare?</p> <p>13 A Yes.</p> <p>14 Q Where do they typically occur?</p> <p>15 A Well, I know they've been documented at 16 Belvidere Mountain. And also out in California 17 in -- I'm not going to be able to remember the 18 name of the -- of the body. But it's, yeah, in 19 limited instances and much rarer occurrences than 20 the cross and slip fiber occurrences.</p> <p>21 Q Okay.</p> <p>22 MR. BURNS: We have a couple of 23 documents that we had pulled out that we need to 24 figure out what to do with. You want to mark 25 these individually or wait till we mark the --</p>	<p>1 and not by Dr. Webb, although they hopefully 2 approximate her reliance materials.</p> <p>3 MR. FROST: Yep, that's fair, and 4 that -- that's a fair statement of the agreement 5 we reached.</p> <p>6 MR. BURNS: All right. Great. Thanks, 7 Mr. Frost.</p> <p>8 BY MR. BURNS:</p> <p>9 Q So we will mark that box Exhibit 15. 10 There are a couple of documents, Dr. Webb, that 11 we're just trying to figure out what they are, 12 frankly, and we'll mark those as 15A and 15B. 13 (Webb Exhibit Nos. 15, 15A and 15B 14 were marked for identification.)</p> <p>15 BY MR. BURNS:</p> <p>16 Q And I'll hand you 15A first. 17 There's 15B. B as in boy.</p> <p>18 A I would want to confirm this, but my 19 first impression is, is that this is from the 20 spreadsheet that is part of Van Gosen 2006.</p> <p>21 Q And that's referring to Exhibit 15A, is 22 it not?</p> <p>23 A Yes. 15A, yes.</p> <p>24 So I believe, you know, if you go to the 25 site, the USGS site from which you can download</p>
<p>1 MS. O'DELL: Let's mark them 2 individually.</p> <p>3 MR. BURNS: Okay. That may make -- 4 let's go off the record for a second.</p> <p>5 THE VIDEOGRAPHER: Going off the record 6 at 5:35 p.m.</p> <p>7 (Recess.)</p> <p>8 THE VIDEOGRAPHER: We're back on the 9 record at 5:43 p.m.</p> <p>10 BY MR. BURNS:</p> <p>11 Q Hello again, Dr. Webb.</p> <p>12 MR. BURNS: So, first of all, a bit of 13 colloquy between counsel here. Defense counsel 14 was kind enough this morning to bring in two 15 boxes, which I believe were identical, of 16 documents that defense counsel had put together 17 that constitute what they believe to be, I think, 18 the vast majority of your reliance materials with 19 maybe the exception of Winter.</p> <p>20 MR. FROST: I think that's the only one 21 we found was missing thus far.</p> <p>22 MR. BURNS: Thus far. So we have agreed 23 to simply mark one of the boxes as Exhibit 15, 24 with the stipulation that the box and its 25 materials were gathered and prepared by counsel</p>	<p>1 the map that I talked about that plots presumable 2 asbestos localities in Vermont, there are some 3 supporting documents, and in those, yeah, was this 4 list -- I mean, it was for all of New England, but 5 this is the sheet that's specific to Vermont, and 6 it gives the latitude, longitude. And then this 7 is the list of references that I said that I tried 8 to dig into on my own to confirm those 9 occurrences.</p> <p>10 Q Okay. So just to be clear, 15A is not a 11 document that you believe you prepared; is that 12 right?</p> <p>13 A Oh, yeah. No, I didn't prepare this. I 14 think we could go and download the Excel file off 15 the USGS website, and this is what would be in 16 that.</p> <p>17 Q I see.</p> <p>18 MR. BURNS: And you can let us know with 19 an errata, I would assume, if that's not -- not 20 the case.</p> <p>21 MR. FROST: Yeah, we'll confirm that.</p> <p>22 MR. BURNS: Okay.</p> <p>23 THE WITNESS: And I'm not sure, because 24 when I went into the references, I went into the 25 list that was specific to Vermont that's shown</p>

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<p>1 here in 15A. 2 My guess is that this is the -- the list 3 of references that accompanied the -- the map more 4 directly. So this would include -- again, this 5 particular report was asbestos in New England or 6 the northeastern United States, so he had these 7 spreadsheets specific to each state. And then I 8 think this is the -- a compilation of all these 9 for -- for all of the sites that -- but, again, 10 I -- we'd have to -- we should be able to download 11 this from that same website, the USGS site. 12 BY MR. BURNS: 13 Q Thank you, Dr. Webb. 14 MR. BURNS: And I guess we'll just 15 confirm that. 16 MR. FROST: Yes. Same thing, if we 17 confirm something different, we'll mark it in the 18 errata sheet. 19 MR. BURNS: Okay. Thank you. 20 So do we have a standalone one like 21 this? 22 MS. O'DELL: No, that's all we have. 23 MR. BURNS: Okay. Let's make sure we've 24 got -- this one is marked, so we probably want to 25 make sure that there's a clean version in the</p>	<p>1 (Webb Exhibit No. 15C was marked 2 for identification.) 3 BY MR. BURNS: 4 Q Okay. Dr. Webb, we have handed you 5 Exhibit 15C, C as in Charlie. 6 Is this the English translation of the 7 Chinese article that we were looking at earlier? 8 A I believe so, yes. 9 Q Okay. Now, in looking through this -- 10 and this was an article on which you relied in 11 rendering your opinions with respect to the 12 Chinese mines; is that right? 13 A I did, yes. 14 Q Okay. Now, in terms of the orogen of 15 the talc in those mines, is it fair to say that 16 the -- that the orogen of the talc was in part 17 tremolite existing in the region? 18 A I'm sorry, I don't -- I don't understand 19 the question. 20 Q Sure. 21 Let me just turn you to page -- well, 22 there's a page -- let's see. 23 A I'll work with you. 24 Q Four pages before the end. 25 A Okay. So this one with the --</p>
<p>1 actual Exhibit 15 box. 2 MR. FROST: What document is this, 3 Leigh? 4 MR. BURNS: This is the English 5 translation. 6 MR. FROST: Yes, that's definitely not 7 in the box. 8 MR. BURNS: Oh, it's not? 9 MS. O'DELL: I found it in the box. 10 MR. FROST: Oh, you did find it in the 11 box? Oh, okay. 12 MS. O'DELL: It was a few tabs after -- 13 MR. FROST: I see. You had -- yeah, I 14 did it too, Laura. Let's see if we can find a 15 clean copy. 16 MR. BURNS: Thank you. 17 MR. FROST: You don't happen to know the 18 number, do you? 19 MR. BURNS: Leigh. 20 (A discussion was held off the record.) 21 THE VIDEOGRAPHER: Going off the record 22 at 5:48 p.m. 23 (A discussion was held off the record.) 24 THE VIDEOGRAPHER: Back on the record at 25 5:50 p.m.</p>	<p>1 Q That's it, I think. 2 And perhaps I wasn't precise enough or 3 didn't use the right terminology, but if we walk 4 through this page, I think you'll see where I'm 5 going. 6 So the article refers to the mother rock 7 that is directly related to mineralization is 8 dolomite marble. Do you see that? 9 A Yes. 10 Q And by "mother rock," that would be the 11 rock that was changed ultimately to talc? 12 A Yeah, so in my report that's the 13 protolith. 14 Q Okay. The protolith. 15 Now, it goes on to say: "This formation 16 contains 19 percent magnesium oxide in this zone, 17 so the requirement for generating the talc ore 18 deposit cannot be completely satisfied, and 19 magnesium oxide must be absorbed from the external 20 surrounding rock to supplement, and the 21 surrounding rock that satisfies this formation 22 condition is spilite." Is that right? 23 A Yes. 24 Q It goes on to say: "In this zone, the 25 content of MGO in spilite is 8.14 percent on</p>

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<p>1 average. Through rock-mineral determination and 2 analysis, magnesium oxide is mainly concentrated 3 in the tremolite, the content" -- parentheses, 4 "the content of tremolite in spilite is 30 to 5 35 percent."</p> <p>6 Is that correct?</p> <p>7 A Yes.</p> <p>8 Q Okay. So in this case, would the 9 tremolite existing in the spilite also be 10 considered a protolith to the talc?</p> <p>11 A Well, it's part of the metasomatic 12 process. So what he describes here is, again, 13 that there is diffusion of chemicals, of elements 14 across the rock boundaries. And what he said is 15 that basically if you look at the mass balance, 16 you can't just form the talc that's present solely 17 by the chemistry of the -- the dolomite alone. So 18 that there was diffusion of magnesium across the 19 rock boundary from the -- the spilite into the 20 dolomite.</p> <p>21 So, no, I mean, the protolith is still 22 the -- the carbonate rock, but the magnesium 23 that's ultimately in the talc, some percentage of 24 that diffused from the -- the spilite.</p> <p>25 Q Which the source of that magnesium was</p>	<p>1 A Yes. 2 Q And that magnesium -- would that 3 magnesium oxide have been contributed from the 4 tremolite to form the -- to form the talc by -- 5 actually, strike that. 6 Why don't I just ask you this question: 7 How would the tremolite contribute that magnesium 8 oxide to the formation of the talc ore? 9 A There would be, I mean, a metamorphic 10 reaction. So -- and, actually, I think he 11 describes this in here. I'd have to again kind of 12 look at this in -- in more detail, but -- but 13 basically the tremolite is -- is reacting -- well, 14 undergoing a chemical reaction where the magnesium 15 is liberated, and so then you're going to have 16 residual silicon dioxide and also calcium, and 17 some of that calcium I believe is contributing to 18 the formation of -- of carbonate, of calcite in 19 this case. 20 So the tremolite that does break down is 21 no longer there. The magnesium went into the 22 talc, in the talc ore, and the residual calcium 23 and silica probably formed quartz and calcite. 24 Q Okay. Is it possible that the remaining 25 tremolite could have been interspersed with the</p>
<p>1 the tremolite in the spilite, correct?</p> <p>2 A Yeah, that was the -- the 3 magnesium-bearing mineral in the spilite, yes.</p> <p>4 Q Okay. And the tremolite -- content of 5 the tremolite and spilite was 30 to 35 percent, 6 correct?</p> <p>7 A Yes, that's what it says.</p> <p>8 Q Is it possible that -- excuse me -- is 9 it possible that tremolite was not fully 10 assimilated into the resulting talc such that 11 tremolite remains in the talc ore?</p> <p>12 MR. FROST: Objection to form, misstates 13 document.</p> <p>14 THE WITNESS: Such that tremolite -- 15 what was the last part?</p> <p>16 BY MR. BURNS:</p> <p>17 Q Remains in the talc ore.</p> <p>18 A I think you mean remains in the spilite?</p> <p>19 Q Well, what I'm getting at is some 20 percentage of the magnesium would have come from 21 the -- from the talc or from the tremolite -- let 22 me strike that.</p> <p>23 Some percentage of the magnesium oxide 24 would have come from the tremolite in the spilite, 25 correct?</p>	<p>1 talc ore? 2 A Yeah, I don't -- I don't think so. It 3 seems that they describe -- the boundaries are 4 still pretty -- pretty clear. So -- but again, 5 you know, I wouldn't be surprised if there was a 6 little bit of tremolite maybe in with the -- the 7 talc, but that doesn't mean anything in -- you 8 know. 9 Q Without further question. 10 A Yeah, I mean, you know, my -- the 11 default would always be that it's prismatic 12 tremolite or, again, maybe acicular tremolite or 13 ablated tremolite, but this is not a recipe for 14 making tremolite asbestos. 15 Q Why would that always be the default? 16 A Because asbestos is so rare. I mean, 17 I've seen tremolite in a lot of rocks, but I've 18 never seen tremolite asbestos in -- again, in my 19 own studies, and that -- you know, and most people 20 haven't. You know, there's basically -- what are 21 the statistics I quoted in my report? That of the 22 amphiboles present in rocks in the continental 23 crust, less than 1 percent by volume, I think, are 24 asbestosiform. 25 And so, you know, it really takes</p>

<p style="text-align: center;">Page 234</p> <p>1 special conditions, a special situation to create 2 that, and what is described here is not -- 3 Q What percent -- 4 A -- anything that leads me to believe 5 that this resulted in tremolite asbestos. 6 Q What percentage of the crust do 7 amphiboles make up? 8 A They're the fifth most common mineral 9 generally in the continental crust, and, I mean, 10 it depends on where you are. I think, you know, 11 it's maybe -- let me check because I wrote 12 something about this. I don't want to misspeak. 13 So in the coterminous United States by 14 area, 6 to -- 6 to 10 percent of the rock types 15 exposed at the surface are amphibole bearing. 16 Q And so 1 percent of that 6 to 10 percent 17 would be asbestiform? 18 A Or less than 1 percent by volume of -- 19 of all amphiboles, yes. 20 Q That would still be a pretty significant 21 volume of rock, though, would it not? 22 MR. FROST: Objection to form. 23 THE WITNESS: Yeah, but it -- again, it 24 takes special conditions. So where asbestos is 25 formed, it's well documented by multiple</p>	<p style="text-align: center;">Page 236</p> <p>1 or I was familiar with many, but -- 2 Q Did you look up Robert Virta, 1985, 3 Bureau of Mines? 4 A I have seen that. 5 Q Okay. Do you recall reading it? 6 A Yeah. Can -- actually, can we see the 7 exact citation, because I just want to -- 8 Q I think we could mark it. Right? 9 (Webb Exhibit No. 16 was marked 10 for identification.) 11 MR. FROST: Are we on 17? 12 MS. KLEVORN: 16. 13 MR. BURNS: 16, yep. 14 MR. FROST: That's right, because you 15 marked everything as A, B or C, right? 16 Thank you. 17 THE WITNESS: Uh, I -- I believe I have 18 seen this, but, again, it really wasn't of -- of 19 interest because it's from New York. So it didn't 20 pertain directly to the petrology of -- of the 21 mines of interest. 22 BY MR. BURNS: 23 Q Do you recall there being references to 24 talc mines within this document? 25 A I really have to read it again, because,</p>
<p style="text-align: center;">Page 235</p> <p>1 instances, and it -- you know, it's rare. I -- 2 just, you know, I wouldn't -- I would never expect 3 if someone says tremolite or actinolite that they 4 mean actinolite or tremolite asbestos unless 5 it's -- that is specified in -- in those words, 6 asbestiform. 7 MR. BURNS: Can we just go off the 8 record for a minute? 9 THE VIDEOGRAPHER: Going off the record 10 at 6:00 p.m. 11 (Recess.) 12 THE VIDEOGRAPHER: We're back on the 13 record at 6:07 p.m. 14 BY MR. BURNS: 15 Q Dr. Webb, I believe you testified that 16 you had reviewed Drs. Cook and Krekeler's reports; 17 is that correct? 18 A Yes. 19 Q Okay. Now, did you review all of the 20 reliance materials that were listed in those 21 reports? 22 A Well, for -- particularly for the 23 petrology related piece that I was specifically 24 interested in, I did look up some of their 25 citations. I wouldn't say all of them necessarily</p>	<p style="text-align: center;">Page 237</p> <p>1 again, I didn't -- I didn't review it in 2 preparation for today. I -- I don't believe it 3 was on my reliance either. 4 Q Okay. So this had -- you don't recall 5 this report having any impact on your opinions. 6 Is that correct? 7 A Yeah, I mean -- again, I mean, the 8 samples are specific to the Gouverneur mine in New 9 York state. So -- no, it didn't -- it didn't feed 10 into my -- the opinions I presented in my report. 11 Q Okay. What about Charles Ratte, 1982? 12 A Yes, I've seen that. The state 13 geologist report? 14 Q Right, the state geologist of Vermont, 15 correct? 16 A Yes. 17 Q Did you review that report before -- 18 A I -- 19 Q I'm sorry, go ahead. 20 A No. 21 Q Did you review that report prior to 22 rendering your opinions? 23 A Yes. 24 Q And did it impact your opinions at all? 25 MR. BURNS: Let's go ahead and mark it.</p>

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<p>1           THE WITNESS: I don't think it was a -- 2        a key player. I think I saw some things in there 3        that seemed inconsistent with other data, and -- 4        but, again, the details I don't have in my head. 5           (Webb Exhibit No. 17 was marked 6           for identification.) 7    BY MR. BURNS: 8      Q Is that the report you reviewed? 9      A Yes. I recognize this, yeah. 10     Q And we've marked that as Exhibit 17. 11     Okay. 12     MR. BURNS: All right. We have no 13     further questions. 14     MR. FROST: Okay. 15     CROSS-EXAMINATION 16    BY MR. FROST: 17     Q So, Laura, I apologize. Sitting next to 18     you is just going to make this, you know, a little 19     more awkward, but I'm going to ask you a couple of 20     questions now. 21     MR. FROST: Do you have Demonstrative 2, 22     as you used it and marked it? 23     THE WITNESS: I do. 24    BY MR. FROST: 25     Q You have -- you have Exhibit 2, I think.</p>	<p>1        this case? 2      A No, it doesn't. 3      Q What is the best and most complete 4      statement of your opinions with the context 5      necessary to understand them? 6      A Well, that would be my expert report. 7      Q And that's the document that was marked 8      as Exhibit 1 today? 9      A I believe so. 10     Q And what is the best, most complete 11     summary of your qualifications, knowledge, 12     training and experience to render an opinion in 13     this case? 14     A Well, that would be my curriculum vitae. 15     Q And do you recall going through and 16     answering many of the questions -- or I guess all 17     the questions that are in Demonstrative 2; is that 18     correct? 19     A Sorry, in this document? 20     Q Yeah, you remember going through these? 21     A Yeah. Yes. 22     Q Do any of these questions and your 23     answers to them affect your -- affect your ability 24     to render an opinion here? 25     A No.</p>
<p>1           A Oh, sorry. 2      Q It's Demonstrative 2. 3      A It shows you what I know about -- 4      Q I'm going to hand you what was 5      previously marked as Plaintiffs' Demonstrative 2. 6      MR. BURNS: Yeah, so we want to enter 7      that into the record. 8      MR. FROST: That's fine. We can mark 9      that -- maybe we could mark it as Plaintiffs' 10     Demonstrative 2 -- 11     MR. BURNS: Yeah. So all I was getting 12     at, if you're going to mark a version, we 13     should -- 14     MR. FROST: I'm not going to touch it. 15     MR. BURNS: Okay. 16     MR. FROST: No, I'm not going to mark it 17     up. I just wanted to give it to her. 18     MR. BURNS: Go ahead. 19    BY MR. FROST: 20     Q Do you remember this document from 21     earlier today? 22     A I do, yes. 23     Q Okay. Does this demonstrative 24     accurately reflect your qualifications, knowledge, 25     training and experience to render an opinion in</p>	<p>1        Q Okay. I'm going to reach over if you 2        don't mind. 3        Here, sorry. 4        Well, I will just show you my copies for 5        purposes of what we're doing here. Okay. 6        All right. Do you recall being shown 7        earlier today various documents marked as 8        Exhibit 12, Exhibit 13, and Exhibit 14? 9        A Yes. 10      Q Do you have those there? 11      A Yes. 12      Q Okay. Are any of these documents the 13      type of documents that a petrologist would 14      consider in undertaking a review of the geology 15      and petrology of the geological formation? 16      A No. 17      MR. FROST: That's all the questions we 18      have. 19      MR. BURNS: Okay. Just a couple 20      follow-up. 21      REDIRECT EXAMINATION 22    BY MR. BURNS: 23      Q One, just so it's clear, why don't we 24      mark as Exhibit 18 the -- 25      A The demonstrative?</p>

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<p>1 Q -- what I was calling Plaintiffs' Demonstrative 2, just so it's in the record. 2 A It's now buried in the stratigraphy pile. 3 MR. FROST: There it is. 4 (Webb Exhibit No. 18 was marked for identification.) 5 BY MR. BURNS: 6 Q All right. You can put that over there. 7 And finally, Dr. Webb, thank you for your time today. I did want to mark off that we did cover your report and opinions on Plaintiffs' Demo 1. 8 MR. BURNS: All right. Thank you very much. 9 MR. FROST: Great. Thank you, Warren. 10 Thank you, Leigh and Amanda. 11 THE VIDEOGRAPHER: This ends today's deposition. 12 We're going off the record at 6:14 p.m. 13 (Whereupon, the deposition of 14 LAURA WEBB, Ph.D. was concluded 15 at 6:14 p.m.) 16 17 18 19 20 21 22 23 24 25</p>	<p>1 INSTRUCTIONS TO WITNESS 2 Please read your deposition over carefully and make any necessary corrections. You should state the reason in the appropriate space on the errata sheet for any corrections that are made. 3 After doing so, please sign the errata sheet and date it. 4 You are signing same subject to the changes you have noted on the errata sheet, which will be attached to your deposition. It is imperative that you return the original errata sheet to the depositing attorney within thirty (30) days of receipt of the deposition transcript by you. If you fail to do so, the deposition transcript may be deemed to be accurate and may be used in court. 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25</p>
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<p>1 CERTIFICATE OF CERTIFIED SHORTHAND REPORTER 2 The undersigned Certified Shorthand Reporter 3 does hereby certify: 4 That the foregoing proceeding was taken before me at the time and place therein set forth, at which time the witness was duly sworn; That the testimony of the witness and all objections made at the time of the examination were recorded stenographically by me and were thereafter transcribed, said transcript being a true and correct copy of my shorthand notes thereof; That the dismantling of the original transcript will void the reporter's certificate. 5 In witness thereof, I have subscribed my name 6 this date: March 30, 2019. 7 8 LESLIE A. TODD, CSR, RPR 9 Certificate No. 5129 10 11 (The foregoing certification of 12 this transcript does not apply to any 13 reproduction of the same by any means, 14 unless under the direct control and/or 15 supervision of the certifying reporter.) 16 17 18 19 20 21 22 23 24 25</p>	<p>1 ----- 2 E R R A T A 3 ----- 4 PAGE LINE CHANGE 5 _____ 6 REASON: _____ 7 _____ 8 REASON: _____ 9 _____ 10 REASON: _____ 11 _____ 12 REASON: _____ 13 _____ 14 REASON: _____ 15 _____ 16 REASON: _____ 17 _____ 18 REASON: _____ 19 _____ 20 REASON: _____ 21 _____ 22 REASON: _____ 23 _____ 24 REASON: _____ 25</p>

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1                   ACKNOWLEDGMENT OF DEPONENT  
2                 I, \_\_\_\_\_, do hereby  
3                 certify that I have read the foregoing pages, and  
4                 that the same is a correct transcription of the  
5                 answers given by me to the questions therein  
6                 propounded, except for the corrections or changes  
7                 in form or substance, if any, noted in the  
8                 attached Errata Sheet.  
9

10                 \_\_\_\_\_  
11                 LAURA WEBB, Ph.D.           DATE  
12

13  
14                 Subscribed and sworn to  
15                 before me this  
16                 \_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_\_.  
17                 My commission expires: \_\_\_\_\_  
18                 \_\_\_\_\_

19                 Notary Public  
20  
21  
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25

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